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AND

GENERAL LITERATURE.

Agriculture and the Mechanic Arts are the basis of Civilization.

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ART. I.—PUBLIC DOMAIN OF THE UNITED STATES.

Although a large portion of the people of the United States regard the policy of the General Government, in respect to the public lands, as unwise and illiberal, yet, there has been no concert in the movement of those who are more immediately interested in correcting the evils involved in the present system. It is not to be expected that the citizens of States which contain no public land, will take the lead in this matter; for it is natural that they should look to the public domain as a source of revenue merely; and so long as the new States acquiesce in that policy which is supposed to be the most productive of revenue, it may be expected that the old States will remain satisfied with the present system.

It is the province and duty of the people of the new States to point out the evils and suggest a remedy; and having done this, we think they will find the non-landholding States willing to sanction any policy calculated to promote the general interest of the nation.

The time may be regarded as ripe for a movement in behalf of a change in the present land system; and, a bill proposing an important change having been introduced in the Senate of the United States by Mr. Douglass, of Illinois, the people of the new States should now rally in support of the measure. We are, however, constrained to state in advance, that Mr. Douglass' bill does not fully meet our views; but it is well that he has, in this first step towards a reform of the existing system, struck at its foundation. The proposition to donate one hundred and sixty acres of land to actual settlers, must appear startling to the minds of all parties; but may, notwithstanding, be the means of preparing them for the adoption of a system which will not only give a reasonable quantity of land to the settler, but, at the same time, provide a fund for education and internal improvement—objects which appear to have been entirely

overlooked by the author of the bill now before the Senate. We copy the bill throughout, that our readers may have an opportunity of examining its provisions in connection with our own views:

"A Bill

"Granting one hundred and sixty acres of the public lands to the actual settler, who shall reside thereon, and shall cultivate a portion thereof, for the period of four years.

"*Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled*, That whenever any person shall take actual possession of any tract of the public land according to the legal surveys and subdivisions, not exceeding one quarter section, and shall reside thereon, and use and cultivate a portion thereof for the period of four successive years, he shall be entitled to a patent from the President of the United States for the same, upon the following terms and conditions, to wit:

"1st. Any person wishing to avail himself of the benefits of this act, and desiring time to enable him to erect his house and become an actual settler, may file with the Register of the Land Office, in the district where the land shall be situated, an application in writing, signed by himself, and verified by affidavit, specifying the legal description of the tract or quarter section upon which he proposes to settle, and setting forth that it is not occupied by any actual settler; which statement shall be received and filed by the Register, who shall thereupon designate the tract upon the books and plats of his office, as claimed by such applicant, and the said tract shall not be deemed subject to location or entry by any other person for the period of six months from such application.

"2d. Within six months from the filing of the application as aforesaid, the applicant shall file with the Register of the Land Office, a statement in writing, signed and sworn to by himself, and supported by the oaths of at least two disinterested witnesses, who shall have a personal knowledge of the facts recited in said statement, stating that the said applicant had taken possession of said tract or quarter section of land, by enclosing a portion thereof, and erecting a house thereon, and becoming an actual resident therein; specifying particularly the date of such possession and residence, and the extent of the enclosure, and the nature and value of the house and other improvements; which statement and affidavit shall be received and filed by the Register, who shall designate the said tract or quarter section on the books and plats of his office as having been located by the occupant, and thereby reserved from sale, location, or entry, by any other person, for the period of four years and six months.

"3d. At the expiration of four years from the filing of said statement and affidavits, as herein provided, the said occupant shall be entitled to a patent for his said land, by proving to the satisfaction of the Register and Receiver of the proper Land Office, by his own affidavit, and the oaths of at least two disinterested and competent witnesses, that he has continued to reside on said tract or quarter section during the entire period aforesaid, and had cultivated a portion thereof during each of said years.

"SEC. 4. *And be it further enacted*, That the privileges of this act shall extend to any person being the head of a family, and all unmarried persons, male and female, above the age of eighteen years, who shall comply with the terms and conditions herein prescribed.

"SEC. 5. *And be it further enacted*, That the Commissioner of the General Land Office is hereby authorized to prepare and issue such rules and regulations consistent with this act, as shall be necessary and proper to carry its provisions into effect."

Before stating our objections to this bill, it may be proper to review the policy involved in the present land system. No public land can be sold for less than one dollar and twenty-five cents per acre; and as evidence that this is esteemed a high price for choice lands in new districts, it is very rare, except in times of speculation, that a tract sells at the public sales for more than the minimum price. Indeed, we infer from the Report of the Commissioner of the General Land Office that *no* lands have been sold in Iowa at more than one dollar and twenty-five cents per acre; for this is stated as the average of all lands sold in that State. The lands sold in Missouri, throughout a period of more than thirty years, have averaged only one dollar and thirty-one cents per acre; and the highest average in any of the States is stated at one dollar and sixty-six cents. This is the result of the sales in Ohio, where a large portion of the land was sold under the credit system at two dollars per acre. Although these results afford incontestible evidence that one dollar and twenty-five cents is a fair price for the choice tracts, yet the Government will not abate one cent in the price of the poorest acre; but obstinately holds it, from year to year, and, we may say, from generation to generation, like a heartless miser, hoping for the day when the necessities of the people will compel them to pay more than its value. This policy involves one of the most odious principles of speculation: and is the more to be deprecated because practiced by the Government, while it taxes its constituents to enable it to hold on to a commodity until an exorbitant price can be obtained. But, one dollar and twenty-five cents per acre is not all that this designing speculator expects to obtain by the sale of a few choice tracts. The improvements of the hardy pioneer are looked to as the means of enhancing the value of the adjacent unsold lands; and the amount of the improved value goes into the public treasury, to be disbursed at distant points, instead of remaining in the community where it was produced. To say that this policy is illiberal, does not denote its true character—it is *tyrannical*. Such conduct when practiced by individuals never fails to render them odious; and we are persuaded that, when fully comprehended by the people, this grinding policy on the part of the Government, will be promptly repudiated, even by those who are most benefited by its operation.

By reason of this policy, large tracts within the limits of the new States remain unimproved, while the sovereignty of these States is abridged by a denial of their right to tax the property of this great land-holder. Of 43,123,200 acres contained in the State of Missouri, there remained, on the first day of January eighteen hundred and forty-nine, 29,436,942 acres, the property of the General Government; 12,353,912 of which were offered for sale anterior to the year 1836.

Thus it will be seen that the General Government still holds more than two-thirds of the land in this State exempt from taxation. There is comparatively but a small portion of this land that is not worthy of cultivation; but the choice tracts in the most desirable locations having been purchased, emigrants prefer going to newer States, where they can make better selections; and hence the increase of population, and the development of the resources of the State, are greatly retarded. But Missouri does not suffer alone: the prosperity of other States is also affected by this unjust policy.

The following table shows the area and quantity of unsold lands in the twelve States containing lands belonging to the General Government, and also the average price of the lands sold in each:

	Area Acres.	Quantity Unsold.	Average per Acre.
Ohio,	25,576,960	807,556 15	1,66
Indiana,	21,637,760	3,271,730 59	1,38
Illinois,	35,459,200	14,998,937 55	1,30
Missouri,	43,123,200	29,436,942 34	1,31
Alabama,	32,462,080	17,450,560 03	1,56
Mississippi,	30,174,080	14,326,430 95	1,36
Louisiana,	29,715,840	23,462,018 00	1,27
Michigan,	35,995,520	25,057,704 32	1,26
Arkansas,	33,406,720	27,464,603 49	1,26
Wisconsin,	31,511,360	27,431,029 76	1,27
Iowa,	32,584,960	28,368,436 89	1,25
Florida,	37,931,520	33,837,392 79	1,29
	392,579,200	245,913,343 72*	

From the foregoing table it appears that the Government holds 245,913,343 acres of land in these twelve states; being more than three fifths of their entire area; and under the present system $307,391,683 must be paid into the treasury of the General Government by the people before the entire quantity can become private property. Did the Government demand nothing more than the value of the lands, the payment of this vast amount might be submitted to without just cause of complaint on the part of individuals; but still the wisdom of such a policy would be questionable. The true state of the case, however, is far different. It may be safely affirmed, we think, that the average value of the public lands in these twelve States does not exceed fifty cents per acre. This, in the aggregate is $184,435,000 less than the Government price. In view of such facts as these none can be so blind as not to see that the present system is, in its very nature, calculated to compel the people, by reason of their peculiar condition, to pay an exorbitant price for public lands; and this consideration alone, to say nothing on the subject of State sovereignty, should be sufficient to induce the people of the new States to unite in demanding a repeal, or modification of the system. Nor, do we believe that the old States can desire to retain a system involving so much injustice to a large portion of the Union. Indeed, they would derive more ben-

*Several interesting tables, in respect to the sales of the public lands, will be found under the head of "Miscellaneous Statistics."

efit from the increased prosperity of the new States, under a better system, than they now derive from their share of the revenue arising from public lands. This, at least, would be the case in regard to the eastern States, whose prosperity depends so much upon the development of the resources of the west and south.

But, notwithstanding our objections to the present land system, we would not give away the public domain, to the extent proposed by Mr. Douglass' Bill. In the first place, the Government ought to be paid out of the proceeds of the lands, for the cost of surveying and other charges incident to disposing of the title. And then, if the nation should be willing to give up all revenue, Congress should so dispose of the balance as to promote the great objects of education and internal improvements. Were the government to donate one hundred and sixty acres to each settler, and still retain the price of the public land at the present rate, but very little would ever be sold after such a law should take effect; and the poorer lands would remain the property of the General Government for an indefinite period. Nor would lands donated in aid of education or internal improvements be available until the lapse of many years. To avoid these consequences we would limit the donation to settlers to eighty acres. This would be a liberal bounty from the government to the constituent; and amply sufficient to enable any individual to support and educate a family. Indeed it is as much as the head of one family can generally cultivate to advantage, without hired labor; and it is evident that in a country where every man may own land who will improve it, there would be but little labor for hire. But many individuals would desire to own more than eighty acres; and having received that quantity as a donation they would be the better able to purchase. Emigration would increase: and owing to the fact that any one who chose might take possession of adjacent land, those who should be able, and desired to do so, would purchase without delay; and hence we may predict that, perhaps, as much land would be sold under such a system as is now sold under the present one.

As another modification of the present system, we would establish a scale for graduating the price of the public lands that would put an end to the title of the Government, at the expiration of a certain time after they had been offered for sale. All lands should be surveyed, and offered at one dollar and twenty five cents per acre as at the present time—excepting from sale such tracts as had been settled on before the offering—and after the end of one year from the date of offering them, the price should be reduced ten cents per acre; and so every year, until reduced to fifteen cents, when they should be relinquished to the respective States in which they may be located, to be appropriated to such purposes as Congress may see proper to designate. The price of lands that may have been in market more than five years before the passage of the law, might be put down to ninety-five cents per acre at once, and be subjected thereafter to a depreciation of ten cents per annum; and all other lands which may have been in market more than one year, might be subjected to the scale of gradation from the passage of the law. This would put an end to the title of the Government in eleven years after the lands are offered for sale.

We are not so vain as to imagine that the system we have suggested is the best that can be devised; but it is submitted mainly for the purpose of calling forth discussion upon what we esteem the most important measure of the present day, especially to the Western States. The new States have submitted too long to the present illiberal and unjust policy pursued in disposing of the public domain: and we earnestly hope that they will take active measures to urge upon Congress, during its present session, the adoption of a better system—a system that will invite an industrious and enterprising emigration; that will supply the means of establishing common schools sufficient for the education of every child in the new States; that will afford aid to works of internal improvement; and, as a consequence, bring capital hither to develop our mineral wealth, and build up manufactures. And, we believe that a system can be devised that will afford important aid to all these objects without materially affecting the revenue derived from the sale of lands.

ART. II.—THE MOSQUITO QUESTION.

To redeem our promise we now present the commercial view of this question. In doing so we shall endeavor to unfold the secret purposes of the British Government for its intervention in the affairs of that part of the American continent, and shall show that it is to acquire absolute sovereignty over that territory, and thereby secure to herself the only practical route for a ship canal between the two oceans.

Ever since the United States acquired Louisiana, England has been jealous of American power and commercial competition. Boasting of being the mistress of the ocean, she could not brook, that facilities should be afforded us to become her rival, and dispute with her the empire of the sea. It is said that Bonaparte, when he had signed the treaty of the Louisiana cession, exclaimed, "I have given to England a rival which in half a century will humble her." The half century has not yet elapsed, but the prophecy of Napoleon is drawing to its fulfillment. Oregon and California are ours, and we have a clear sea coast on the Pacific of 1200 miles, embracing the best harbors on the western coast of the continent, and the richest mineral and agricultural lands in the world. Our people are already there, and the rich commerce of oriental Asia is inviting our enterprise to come and possess it. We have already projected and will complete an iron road through the centre of the continent, to the Pacific; when that is completed, and the steam car and steam ship will have placed us in communication with Canton and the east; then the idea that led to the discovery of America, will be realized, and the prophecy of Napoleon accomplished.

England has not been an indifferent observer of our march to greatness: she has watched it with fearful apprehension, and for half a century has left no expedient untried to check our onward march. But Providence, who holds in his hands the destinies of nations, has shielded us from her machinations, and brought her wisest counsel to nought.

It is not necessary to enumerate all her efforts to arrest our progress towards the western ocean: a few of the most prominent will suffice. When we acquired Louisiana, some doubt was raised whether it extended to the Pacific. France, it is true, claimed to the Pacific, and we were the assignees of her rights. But, to a certain extent, our claims conflicted with the claim of Spain, whose northern boundary was not defined. By the cession of Louisiana, we acquired the entire control of the Mississippi from its source to its mouth. In the second war with Great Britain, she sent a chosen army, victorious on every battle field in Europe and believed invincible, to seize upon New Orleans. The unexampled and brilliant exploits of Jackson and his western heroes, averted from that city the fate which British arrogance had prepared for it. We all know if New Orleans had fallen, never would it have been restored, if British power could have maintained it. Even as it was, in her negotiations for peace she demanded the *free navigation of the Mississippi.* In 1812 during the war, she sent the sloop of war Raccoon, and seized upon the Columbia river; according to treaty stipulations, but after long equivocation, she restored Oregon and acknowledged the American sovereignty, pending the dispute of ultimate sovereignty. But to defeat the ultimate sovereignty of the United States, she immediately entered into a treaty for the joint use of said territory, for trapping and hunting for ten years. In 1827 this treaty was extended indefinitely. The British claim meanwhile had strengthened, as all her claims do, by delay. When the question of the north-western boundary came up, she had extended her claim so as to embrace the straits DeFuca, Puget's sound, and the mouth of the Columbia river, leaving us no harbor upon the North West coast.

While negotiations were pending, and war with Mexico inevitable, she gave secret orders, upon the breaking out of hostilities, to seize upon California to prevent its falling into our hands. She had concerted all necessary preliminaries for this purpose, if not by positive agreement with, at least by the connivance of Mexico. The transfer of the Missions, and other extensive property to British subjects; the large concession to the British emissary, Macnamera, were all preliminaries, so as to give a show of justification to the seizure, should it take place. The British man-of-war, the Collingwood, sailed from Mazatlan as soon as the news of the collision on the Rio Grande reached that port, without designating her destination. On board of her was Macnamera. A British man-of-war that then lay in the Columbia river, had orders to sail for San Francisco, and seize upon California at the first intimation of hostilities.

This scheme, so carefully elaborated, and maturely concocted, was instinctively, or rather providentially defeated, by a young man at the head of fifty men, then in the Western wilderness, without concert with, or instructions from our Government, and even without the

knowledge of the changed relations between the United States and Mexico. We allude to Col. John C. Fremont. His conduct at Sonoma and San Francisco, in routing and driving the Mexican forces from the country, induced Commodore Sloat, then at Monterey, to seize that place, and hoist the American flag. The Commodore knew that a messenger from the States (Gillespie) had just arrived at Fremont's camp, who, he supposed, had brought Fremont news of war, and instructions for what he was doing. Fremont, while in pursuit of the fugitives in their flight to the southward, had an interview with Com. Sloat, when the latter learned to his regret, that Fremont acted upon his own responsibility, and without any information or positive instructions. But the arrival of the Collingwood, the astonishment of the British in seeing the American flag floating over Monterey, and their wonder how the news of war should have reached Monterey in advance of them, reconciled Com. Sloat to what he had done, and allayed his fears of having acted too hastily. He had orders, in the event of war, to seize Monterey, and hold California as an American conquest. Fremont's movements had caused him to carry out his instructions in advance of the news, and while he could, so that when the Collingwood arrived, Monterey, and all California was in the peaceable possession of the Americans.

Thus the deepest scheme, and heaviest blow aimed at our commercial supremacy were defeated providentially, and the last obstruction to our onward progress removed from our way to possess the commerce of the Pacific, and through it to control that of the world. As the spider when she entraps the fly in the cobwebs she spread him, trusts not to retain him by a single thread, but wraps him in a thousand filaments so that if one breaks, others will hold, and her prey be safe. So with England. She never relies upon one filament to secure and hold her prey. Her web consists of thousands, which are spread all around her intended victim, hedging him in on all sides, and confining him in every movement. He may escape her diplomacy but her policy never. The first is local and limited, but the latter embraces the globe.

How long England had an eye on California it is impossible to say; but in the latter part of Mr. Van Buren's administration there were some rumors that there were negotiations pending between our Government and Mexico for the purchase of California. It was then intimated by the English press that California was mortgaged to the British holders of Mexican bonds. It is however somewhat singular that simultaneously with these rumors of American negotiations for purchasing California, England should take the first steps that have resulted in the seizure of the Mosquito shore. The object of that seizure will be evident by a mere enumeration of facts. In 1838 Captain Sir Edward Belcher of the Royal Naval made a survey of the harbor of Realjo on the Pacific and explored the rivers that fall into the ocean in the direction of Lake Leon or Managua. He found the Rio Estero Real, navigable thirty miles, (the distance he ascended with the Starling) for vessels drawing ten feet of water. They could have gone further, but he says, "the strong winds rendered the toil of towing too heavy." "The natives and residents assert sixty more (i. e. miles of navigation.) But steamers will be absolutely

necessary to tow against the prevalent breezes." His examinations of the country high up the river convinced him that it had its source near Lake Managua, and that the country presented no serious obstacles to the construction of a canal.

He saw the mountains beyond the eastern side of the Lake, from the top of a hill on the river's bank, with "no higher land than the intervening trees;" and, upon this, reports to the British Government, "*that it is the most advantageous line for a canal.*"

In 1840, the British Government sent out a corps of Engineers in Her Majesty's ship *Thunderer*, to survey the Rio San Juan, Lakes Nicaragua and Managua, and intervening country to the Pacific, with reference to the feasibility of constructing a ship-canal through the same, from ocean to ocean. Mr. Bailey was Chief Engineer of this expedition, assisted by Mr. Lawrence. Mr. Bailey had, a year or so before, made a survey of the same, under the employ of the Government of Central America. This survey established it beyond controversy to be the best route yet surveyed. In 1845, the Nicaragua Government placed Prince Napoleon Louis Bonaparte, now President of the French Republic, at the head of the executive direction for constructing said canal. *In* 1845, *England crowned the King of the Mosquitoes, and took him with the Mosquito country, defined so as to embrace the* MOST SOUTHERN MOUTH OF THE SAN JUAN, *under English protection.* In 1849, she notifies Messrs. D. L. White, & Co., American citizens, that she cannot permit said canal to be constructed, because it would trench on the sovereignty of the Mosquito country, which England was engaged to protect. With these facts, we leave our readers to draw their own inferences as to what were the reasons that induced England, in 1845, so suddenly to revive her claim, abandoned by the treaty of London, in 1786, to the Mosquito coast.

The idea of a western route to the Indies, if it did not originate with Columbus, at least inspired him with enthusiasm to demonstrate its truth and practicability. He was arrested on the way for its demonstration, by the until then unknown obstacles, the intervention of the American continent. The discovery of the Pacific by Balboa, and the circumnavigation of the globe by Magellan, demonstrated the truth of the theory of Columbus and the practicability of a western route to the Indies, provided a better communication between the two oceans, than the tempestuous route around Cape Horn, or through Magellan's Straits, could be discovered. The extension of the American continent southward into the region of perpetual frost that surrounds the Antartic Pole forbid the feasibility of a western route, unless a communication either through the continent or around it, in the north could be discovered. Hence the discovery of a north west passage, engaged the attention of European nations during the sixteenth century. For this purpose the rivers on the eastern coast of North America were examined. Hendrick Hudson, the discoverer of Hudson river, when he had penetrated through Hudson's straits into Hudson's bay, believed that he had been successful in his search for a passage. But to his mortification he found that he was land locked on the west, and that he was only in an immense bay, with no passage westward except in higher latitudes than that in which he had entered it. The Bay remains a lasting monument of his hazardous enterprise, important discovery and sad fate.

With the discovery of Hudson's Bay, the idea of discovering a natural communication between the two oceans for practical purposes, was pretty much abandoned. Attention was then drawn to opening an artificial communication across some of the isthmuses in Mexico and Central America. Cortez, the conqueror of Mexico, is said to have been the first to have projected a canal between the two oceans, through the Isthmus of Tehuantepec. This is doubted by some, as canals with locks were then unknown, except in Italy; but, it is nevertheless a fact, that Cortez did recommend to the Government of Spain, a plan for opening such a communication. But, as the discovery of the Pacific, made by Vasquez Nunez de Balboa, who crossed the Isthmus of Darien, and made the discovery of the South Sea in 1513, had established the fact that the Continent was there much narrower, and the obstacles to a communication by land much less, the project of Cortez did not receive much favor or attention at Court. Since then, four projects by canal have each, in turn, had its advocates, viz:

I. Through the Isthmus of Tehuantepec, by the Rio Huascacoalco, or Coatzacoalcos,* to the Gulf of Tehuantepec.

II. Through the Isthmus of Nicaragua, by the Rio San Juan de Nicaragua, Lake Nicaragua, Rio Tipitapa, Lake Leon, or Managua, to the harbor of Realejo, (pronounced Ray-ah-lay-ho.)

III. Through the Isthmus of Darien, by Rio Chagres, to the Gulf of Panama.

IV. By the Rio Atrato, and Rio St. Juan de Cauca.

We shall consider each separately, in the order in which we have placed them.

I. *Isthmus of Tehuantepec.*—From the fact that its principal river, the *Huascacoalco* has a good and safe harbor, with but few obstacles to its entrance, and as it can be made navigable for ships 110 miles from its mouth to the confluence of the Rio Alaman or Malentengo, this isthmus has received considerable attention both in Europe and America. The Vice Roy of Mexico Bucareli during the last century had the route explored and the soundings of the river taken. This was done in 1774 and the soundings of the entrance and harbor then taken prove that no perceptable change has taken place, in either from that time to 1842 when the last soundings were made by Senor Moro. The water on the bar remaining at half tide 21 feet, and in the harbor from 6 to 8 fathoms.

In 1824 the route was explored by a joint Commission constituted for the purpose by the Central Government of Mexico, and the State of Vera Cruz. The former appointed Don Juan de Orbegoza, the latter Don Tadeo Ortiz; each of these commissioners made separate reports to their respective Governments. The reports are explicit upon the practicability of the project, but in view of the political difficulties then existing in that country, recommended the improve-

*On the American maps, the river is uniformly called Huascacoalco. On some of the English maps, it is called Coatzacoalcos. On a Spanish map, which professes to be authentic, (Mapa de los Estados Unidos de Mejico, segundo lo organizado y definido por las varias actas del Congreso de dicha Republica, y construido por las mejoras autoridades: por J. Disturnel: i. e., Map of the United States of Mexico, as they are organized and defined by the various acts of the Congress of said Republic, and constructed from the best authorities: by J. Disturnel:) it is also called Rio Huascacoalco.

ment of the Huascacoalco to the Malatengo, that is, making it navigable for ships to that point, and from thence a carriage road to the lagoons that connect with the Gulf of Tehuantepec. The improvement recommended was estimated at $16,500,000 *pesos duros*. But owing to political and moral difficulties, more than physical obstacles, nothing has as yet been attempted, by either Government, to execute any plan of improvement.

The mountain chain being interrupted between Santa Maria Petapa and San Miguel Chimalpa, and with only an inconsiderable summit elevation that divides the waters flowing north into the Huascacoalco, and those south into the San Miguel or Chicapa no great difficulty would be encountered to construct a canal uniting the two rivers, were there any feeders to supply water to the canal at the summit level. This is a difficulty that is admitted in all the reports of surveys made of the route. To obviate this, various projects have been proposed. The one that has received most favor, is to construct the canal through the Portillo de Tarifa, the lowest point in the ridge, and supply it at this point with water from the Ostuta and San Miguel. For this purpose it would be necessary to build a dam in the Ostuta and excavate a trench 3 1-2 miles long to the San Miguel or Chicapa. Then a similar dam in the San Miguel, and a trench 16 1-2 miles long to connect with the canal at Portillo de Tarifa. Thence the most advantageous route by the Monetza and Chicapa to the Gulf of Tehuantepec. The Portillo de Tarifa is 200 metres (674 feet 3 inches) above the level of the sea at Tehuantepec and 160 metres (539 feet 4 inches) above the level of the confluence of Huascacoalco and Malatengo. The length of the canal from the mouth of the Malatenga to Tehuantepec would be about 50 miles. The number of locks in the whole line 161 : which 89 would be required on the Pacific side and 72 on the Atlantic side. The cost of constructing the canal, locks, regulating the Huascacoalco, excavating the lagoons of Tehuantepec, and the Boca Barra we have seen variously estimated from $16,500,000, to $97,000,000.

From all the facts presented in the various reports, we believe the construction of a canal to be impracticable on account of its cost, if not impossible; but that the route is very favorable for a rail road, perhaps the best on the continent taking everything into consideration, and that as such it is worthy of favorable consideration. Don Pedro Garay in his "*Relacion*" for the purpose of calling attention to this route for the construction of a railroad, or carriage way across the Isthmus, has brought together a vast and extensive collection of facts bearing upon this point, which deserves favorable attention. Moreover we see in a late New York paper that Senor Garay had at his own cost constructed a carrriage way across the country from the head of navigation on the Huascacoalco to Tehuantepec, and that he is now in New York purchasing coaches to be used on it, and steamboats for the navigation of the Huascacoalco. Should he be successful the tide of emigration to California will be diverted through the route.

II. *Isthmus of Nicaragua.*—This route was surveyed by Mr. Bayly, a half pay officer in the British Navy, for the Republic of Central America in 1837-8; again, in 1840, Mr. Lawrence, in Her Majesty's ship *Thunderer*, made a survey of the river San Juan to its junction

with Lake Nicaragua for the British Government. Also Mons. A. Garella made a survey of the whole route, we believe under the auspices of Napoleon Louis Bonaparte now President of the French Republic. All these surveys agree in the entire feasibility of the project, and that the difficulties to its execution will not be of a physical but political and moral nature.

The harbor of the San Juan, as already stated, is the best on the coast from the Boca de Toro to Cape Gracias a Dios. The river San Juan has a course according to Mr. Baily, and M. Garilla of 90 miles: but according to Mr. G. Lawrence 104 miles, and can easily be made navigable for ships.

Mr. Baiyly says:

"The river San Juan flows from the Lake of Nicaragua at its "southwestern extremity, at the place where formerly stood fort San "Carlos now completely destroyed. Here is the only discharge for "the waters of both the Lakes. The whole length of the river "pursuing all its windings from San Carlos down to the Port of San "Juan del Norte, is ninety miles, it forms a magnificent stream, some-"what irregular in its breadth, which varies from 100 to 200 yards, "studded with small islands, forming for the most part a channel on "each side of them. The depth of the water varies from one and a "half to seven, eight and nine fathoms. In the mid stream the depth "is generally from three to five fathoms, but during the rainy season, "namely, from May to November, the depth is considerably increased; "for according to the observations, made at the ruined fort near "Grenada, in calm weather, in October 1838, when the rainy season "had just terminated, and again in May 1839 before the rains had "commenced, when the lake was at the lowest, the difference of "height between those extremes was found to be six feet six inches, "in November 1839, at which time the rains had ceased, the same "observations were made, and the result was that the waters had "risen fourteen inches less than in the previous year.

"The banks of the river, particularly the right, are fringed with "wood of all sizes and descriptions, with a dense undergrowth, "forming, altogether, a forest nearly impenetrable; consequently there "are no inhabitants, nor is the land cultivated, although of prodigious "fertility. The immediate shores are undulating, being in some parts "not more than a few feet, and in others between twenty and thirty "feet above the surface of the waters.

"Two large rivers, the San Carlos and Sarapiqui, besides many "small streams, discharge into the San Juan."

M. Garilla says:

"From the gentle declivity of the river San Juan, the current is "not strong, being at the rate of a mile or a mile and a half per hour, "except in the time of freshets, when it is accelerated variously, "according to circumstances. It is navigated all the year round by "boats of eight or ten tons burthen, called *bongos*, and which are "generally manned by ten or twelve men, besides the patron. They "can carry 100 *seroons* of indigo, or 500 hides, or a proportionate "quantity of Brazilian timber. The obstacles that now prevent the "advantageous navigation of the Rio San Juan are—first, the rapids: "secondly the drainage occasioned by its influx into another, called the

"Colorado, seventeen miles above the port of San Juan, and lastly, the "labyrinths of small islands, which extend ten or twelve miles from "the opening of the Rio Colorado to the mouth of the San Juan. It "is generally believed that at some former epoch, the Spaniards "purposely enlarged the opening of this branch, with the intent of "exhausting the main river at that port, to such an extent as to "render the river impracticable to navigation, hoping thereby to "protect the town of Grenada from external attacks. In the present "advanced stage of the science of civil engineering, this obstacle "would be easily surmounted. The rapids are four in number, called "*del Toro*, *del Castillo Viejo*, *de las Balas*, and *de Machuca*, all com-"prised within an extent of ten miles; but there is a clear water-way "from one to the other, having good depth of from three to six fathoms: "the longest of these rapids is not more than one mile. The rocks by "which they are occasioned, are all placed transversely to the current, "leaving a narrow channel on each side, and showing their ragged "and sharpened edges above the surface of the water during the dry "season.

"The breadth of the river from this point, is between 100 and 120 "yards: the current rushes with violence, and dashes with great force "against and between the projecting points. The bongos, however, "make the passage without hazard, and we have never heard of the "occurrence of an accident.

"The Colorado diverges from the San Juan in 10 deg. 50 min. "north latitude, and after running in a south-easterly direction, falls "into the sea in 10 deg. 46 min., forming a dangerous bar. This river "abstracts from the main stream a considerable quantity of water, "the opening from the San Juan being 1200 feet wide, and having in "the deepest part nine feet of water at the lowest state of the river. "From measurements of this section, carefully taken at two different "periods, in May, when at the minimum, and in July, when much "increased by freshets, it appears from calculation, that at the first "period, the loss of water from the river was 28,178 cubic yards per "minute, and at the latter observation, as much as 85,840 cubic "yards. The main current being thus suddenly weakened, the motion "of the water becomes sluggish, and the natural effect is, that "deposites of sand and mud are formed, which gradually augment "where the movement of the water is feeble. Trunks of trees, and "other floating bodies grounding in these, islets are formed by succes-"sive aggregations, which soon become covered with rank grass, "reeds, and other herbaceous plants of rapid growth. A great number "of these mounds have been thus raised, and the progress of formation "is continually going on. The usual methods of clearing the beds of "rivers could here be applied with facility and good effect, as the "accumulations are nothing more than silt and sand, with occasional "logs buried underneath. A dam across the Colorado branch, con-"structed on such of the well known plans as might be judged the "most efficient, would be indispensible. The reinforced body of "water, aided, if necessary, by the resources of art, would, by the "momentum of its increased velocity, soon clear a channel to the "depth that should be deemed requisite. Other parts of the river "where such operations might be wanted, could be improved by

"nearly similar methods, as the bottom is even where composed of "mud and sand, except about the rapids, where it is rock or loose "stones."

Mr. Stephens, in his tour, became acquainted with Mr. Bailey, and in his "*Travels in Central America*," presents all the information with respect to the Lakes, river, and route beyond the Lakes to the Pacific, that he was able to collect. Mr. Stephens passed over the route from the Lakes to the proposed terminus at Realejo, on the Pacific, but did not see the Rio San Juan. Of the latter, however, he speaks as follows:

"The length of the river by measurement, with all its windings, "from the mouth of the Lake to the sea, is ninety-seven miles. There "are no cataracts or falls: all the obstructions are from rapids, and it "is at all times navigable, both up and down, for piraguas drawing "from three to four feet water.

"From the Lake to the river of Los Salvalos, about eighteen miles, "the depth is from 1 1-2 to 2 fathoms. The river is then clear for four "miles, with an average depth of from two to four fathoms. Then "come the rapids of the Old Castle, but little more than half a mile "in extent, with water from two to four fathoms. The river is clear "again for about two miles, with water from two and a half to five "fathoms, where begin the rapids of Mico and Las Balas, connected "and running into each other, and both together not more than a mile, "with water from one to three fathoms. Then the river is clear one "mile and a half to the rapids of Machuca, which extend a mile, and "are the worst of all, the water being more broken, from running "over a broken bottom. The river then runs clear and without any "obstruction, for ten miles, with water from two to seven fathoms, to "the river San Carlos, and then eleven miles with some islands "interspersed, with water from one to six fathoms, to the river Sera-"quea, the measurement of one fathom being about the points or bends, "where there is an accumulation of sand and mud. It then continues "seven miles clear, with water from two to five fathoms, to the Rio "Colorado. The river Colorado runs out of the San Juan in another "direction, into the Atlantic.

"The loss to the latter according to measurement taken in the "month of May 1839, was 28,178 cubic yards or water per minute, "and in the month of July of the same year during the rising of the "waters, it was 85,840 yards per minute, which immense body of "water might be saved to the San Juan by damming up the mouth of the "river Colorado. From this point there are thirteen miles of soundings "of from three to eight fathoms. The bottom is of sand and mud and "there are many small islands and aggregations of sand without trees, "very easily cleared away. The last thirteen miles might be reduced "to ten, by restoring the river to its old channel, which has been "filled up by collections at points of drifted matter. An old master "of a piragua told Mr. B.—that within his memory trees grew half "a mile back. The soundings were all taken with the plotting scale "when the river was low, and the port of San Juan, though small, Mr. "Baily considers unexceptionable. * * * This river has an "average fall of one and six-sevenths feet per mile to the Atlantic. "If the bed of the river cannot be cleared out, a communication can

"be made by either lock and dam, or by a canal along the bank of the "river. The latter would be more expensive; but on account of the "floods of the rainy season it is preferable."

These extracts are sufficient to show the character of the river, and to determine the feasibility of a canal the whole length of the St. John's river. We now proceed to give a description of Lake Nicaragua, which as we shall show is navigable for ships of the largest class. Mons. A. Gariella found as many as forty five fathoms in the middle of the lake.

Mr. Baily says:

"The Lake of Nicaragua or Grenada is ninety geographical miles "long, its greatest breadth is forty, and the mean is twenty miles; "the depth of water is variable, being in some places close to the "shore, and in others half a mile from it two fathoms, increasing "gradually to eight, ten, twelve, and fifteen fathoms, the bottom "usually mud.

"This basin is the receptacle of the waters from a tract of country "six to ten leagues in breadth on each side of it, thrown in by "numerous streams and rivers, none of them navibable except the "river Frio, having its source far away in the mountains of Costa "Rica, which discharges into the lake a large quantity of water near "the spot where the river San Juan flows out of it. The embouchure "is 200 yards wide, and nearly two fathoms deep. There are "several islands and groups of islets in different parts of the lake, "but none of them embarrass the navigation, nor is this anywhere "incommoded by shoals or banks, other than the shallow water in "shore; and even this is but very trifling, or rather it is no impedi- "ment at all to the craft at present in use, the practice being to keep "the shore close aboard for the purpose of choosing convenient "stopping plaoes at the close of the day, as they scarcely ever con- "tinue their voyage during night.

"The largest islands on the lake are Amotepe, Madeira, and "Zapatera, taken together the first two of the islands are twelve "miles long, Zapatera is almost triangular and five miles long, "Sanate, Salentinane, and Zapote are smaller and uninhabited but "some of them and the last in particular are capable of cultivation. "Near the town of Grenada there is the best anchorage for ships of "the largest dimensions."

Lake Nicaragua is connected with Lake Leon or Managua by the Tipitapa river the length of this river is about sixteen some say twenty miles, and has a fall between the two lakes of 28 feet. Mr. Stephens states that the whole fall is comprised within the first six miles of the river descending from Lake Leon, M. Michel Cehvalier distributes it as follows: eighteen feet at the cascade of Tipitapa and the remaining ten feet between the cascade and Lake Nicaragua. M. Garella estimates that one lock for the first twelve miles between Lake Nicaragua and the cascade would be necessary to deepen the river. Mr. Lawrence states that the river has a depth of from three to eighteen feet to the cascade, and that the fall at Pasquiel is only thirteen feet.

In relation to this river Mr. Baily says:

"The Lake Nicaragua is connected with that of Leon by means of

"the river Panaloya (or Tipitapa) navigable for the boats imployed "in that country for twelve miles as far as the place called Pasquiel, "where the inhabitants go to cut and bring away Brazilian timber. "The four miles which remain between that place and the Lake of "Leon are not navigable by any kind of boat, whatever may be its "construction, because beyond Pasquiel the channel is obstructed by "a vein of rocks, which, when the river is swollen, are covered with "water; but in the dry season, the water sinks so low that it can "only escape through gradually diminishing fissures in the rocks. "At the distance of a mile beyond this first vein of rocks, we find "another more solid, which, crossing the river at right angles, forms "a cascade of thirteen feet descent. The river Tipitapa, which dis-"charges itself into the Lake of Nicaragua is the only outlet for Lake "Leon. The lands bordering on this river are somewhat low, but "fertile, having excellent pasturage; at Chontales, they are divided "into grazing and breeding farms. All this country covered with "Brazilian timber is scantily inhabited. The only village is that of "Tipitapa, situated near the above mentioned waterfall. It contains "a small church, and about 100 cottages. The river is crossed by a "wooden bridge."

Lake Leon or Monagua is thirty-five miles long and sixteen at its greatest width. The most of the water is received from the circumjacent country chiefly flows from the eastern coast, but all the streams that fall into it are small. The soundings of Mr. Lawrence would not make it as deep as Lake Nicaragua. But Mr. Garella makes it still deeper. In the middle of the lake stands the conical shaped island of Monotombito. On its northwestern shore rises the volcano of Monotombo, which usually sends forth smoke. It is conceded by all that the lake affords sufficient water for ships of the largest class.

The western extremities of Lake Leon is within fifteen miles of the Pacific and twenty-nine from the harbor of Realjo the point where most of the surveys have fixed for the terminus of the proposed canal; others have fixed on the Gulf of Fonseca or Conchagua some thirty miles further north for its terminus, and which we now believe is received with more favor. The plain of Nicaraugua extends north from the table lands of Costa Rico. The eartern portion is nearly flat, the west is more undulating. A range of hills extends on the extreme west of it from Costa Rico in a north west and south east direction towards the Pacific. Where these hills approach Lake Nicaragua there are several volcanoes. Farther to the northwest between Lakes Nicaragua and Leon the hills gradually lower and disappear opposite the northwestern extremity of Lake Leon, and are succeeded by low and level plains twelve or fifteen miles wide to the Pacific. To the north of the Bay of Fonseca rise volcanoes. The highest intervening point between Lake Leon and the Pacific is on the bank of the lake and is only fifty six inches above the level of the lake.

The calculation of Mr. Baily makes the Lake Nicaragua 128 feet three inches above the level of the Pacific at low water and full moon; Lake Monagua 28 feet 8 inches above the level of Nicaragua and the most elevated summit between Lake Managua and Realjo 55 feet 6 inches. Total height of the summit level 212 feet 5 inches. M. Garella makes the difference between high water in the Pacific and low water in the Atlantic 19 feet 6 inches. This will make the summit level above the Pacific 231 feet 11 inches.

The length of the route will be as follows:

Canal from Port St. Juan to Lake Nicaragua, -	194	miles.
Lake Nicaragua, - - - - -	90	"
Canal of river Tipitapa, - - - - -	20	"
Lake Managua, or Leon, - - - -	35	"
Canal from Lake Leon to Realejo, - - - -	22	"
Total length that route, - - -	278	miles.
Or, according to Mr. Baily, - - -	264	miles.
From which deduct length of lakes, - -	125	"
Length of canal according to Mr. Baily, - -	139	miles.
According to Mr. Lawrence, - - -	153	"

Should, however, the lower portion of the San Juan, (as it is supposed it can) be made navigable for ships, say 70 miles, the length of the canal will be reduced to 83 miles.

From Lake Managua to Rio Tosta, eleven miles, but one lock would be required. In the next four miles, about 200 feet would have to be overcome by lockage, from which the descent of the plain is gradual to the Pacific. The principal streams that would be encountered are Rio Tosta, San Juan El Cacao, and the Estero Real, would afford abundant water for the canal.

The harbor of Realejo is unquestionably one of the best on that part of the Pacific coast. Capt. Sir Edward Belcher, of the Royal Navy, surveyed it in 1838. He says:

"It has two entrances, both of which are safe, under proper "precaution, in all weather. The depth varies from two to seven "fathoms, and good and safe anchorage extends for several miles. "The rise and fall of the tide is eleven feet, full and change in three "hours and six minutes. Docks or ships, therefore, may easily be "constructed, and timber is readily to be procured of any dimensions; "wood, water, and immediate necessaries and luxuries, are plentiful "and cheap."

Juarras, in his history and geography of Nicaragua, says that the harbor is capable of containing 1000 ships; and that the village of Realejo was founded by the companions of Alvarado, but abandoned because of the frequent attacks of the Buccanneers.

Mr. Stephens, in his Travels in Central America, says of this harbor:

"Rested and refreshed I walked down to the shore. Our encamp- "ment was about the centre of the harbor, which was the finest I saw on "the Pacific. It is not large but beautifully protected, being almost "in the form of the letter U. The arms are high and parallel, running "nearly north and south, and terminating in high perpendicular bluffs. "As I afterwards learned from Mr. Baily, the water is deep, and, "under either bluff, according to the wind, vessels of the largest class "can ride with perfect safety. The harbor was perfectly desolate, "for years not a vessel had entered it; primeval trees grew around "it, for miles there was not a habitation; I walked the shore alone. "Since Mr. Baily left, not a person had visited it, and probably, the "only thing that keeps it alive, even in memory, is the theorising of

"scientific men, or the occasional visit of some Nicaragua fisherman, "who, too lazy to work, seeks his food in the sea. It seemed prepos- "terous to consider it the focus of a great commercial enterprise; to "imagine that a city was to rise out of the forest, the desolate harbor "to be filled with ships, and become a great portal for the thorough- "fare of nations. But the scene was magnificent. The sun was "setting, and the high western headland threw a deep shade over the "water. It was, perhaps, the last time in my life that I should see "the Pacific, and in spite of fever and ague tendencies, I bathed once "more in the great ocean."

Mr. Stephens, to whom Mr. Baily politely furnished all the surveys and plans for a canal, makes the following estimates of the cost of the work.

From the Lake Nicaragua to summit level	8 to 10	million dollars.
From summit level to Pacific, -	2 to 3	" "
From the Lake to Atlantic by canal along the bank of the San Juan, - -	10 to 12	" "
Total estimate, - - - -	20 to 25	million dollars.

There are various other projects for canals to terminate at the Gulf of Nicoya and the Gulf of Papagayo south of the harbor of Realejo, and at the Gulf of Fonseca or Conchagua to the north. Sir Edward Belcher of the Royal Navy first proposed the latter. His plan was to pass behind the Volcano Monotombo and proceed northward until convenient ground could be found to descend to the plain and terminate the canal on the Gulf of Fonseca. This we believe is now the favorite route, but we have no surveys or estimates of its cost. In fact it is admitted that all the routes proposed are practicable; actual surveys must determine that which is best.

III. *Isthmus of Panama.*—All the surveys for a canal across the Isthmus, agree in pronouncing the project one of great difficulty, if not entirely impracticable. In 1827 and 1828 by order of General Bolivar, Messrs. Lloyd and Falmarc were employed as engineers, to make a survey of the route across this Isthmus. Lloyd lost his life in the undertaking, and sickness and death broke up and dispersed the commission before the work was completed, only a reconnoisance having been made, the report of which was unfavorable to the project. In 1842 Senor Moro says:

"The Isthmus of Panama, is again being explored, but it has been "lately estimated, that even if the work be at all practicable, its "accomplishment would require the united efforts of the principal "nations of the world, and an expenditure of at least 200,000,000 "francs."

M. Garella the French Engineer, who, under instruction from his government made a survey of this route, reported the length of the route to be canalled 30 miles the highest summit 177 feet, but that no supply of water could be had at the summit level. To obviate this, otherwise fatal objection, he preposed to make a tunnel, the cost of which he estimated at $7,700,000. Baron de Humbolt who is good authority in such cases, and who personally has some knowledge of the route, and had at one time at least great faith in its practicability,

as late as June of last year in a note appended to "Plateau of Caxamarca" in his "*Ansichten der Natur*" has these remarks:

"As the taken possession of a considerable of the west coast of the "New Continent by the United States of America and the report of "the abundance of gold in New California have rendered more urgent "than ever the formation of a communication between the Atlantic "States, and the regions of the west through the Isthmus of Panama, "I feel it my duty to call attention once again, to the circumstance "that the shortest way to the shores of the Pacific, which was shown "by the natives to Alonso Martin de Don Benito, is the eastern part "of the Isthmus, and led to the Golfo de San Miguel." Again,

"General Bolivar, at my request, caused an exact levelling of the "Isthmus between Panama and the mouth of the Rio Chagres to be "made in 1828 and 1829 by Lloyd and Falmarc. Other measurements "have since been executed by accomplished and experienced French "Engineers, and projects have been formed for canals and railways "with locks and tunnels, but always in the direction of a meridian "between Portobello and Panama, or more to the west, towards "Chagres and Cruces. Thus the most important points of the "eastern and southeastern part of the Isthmus have remained unex-"amined on both shores. So long as this part is not examined "geographically by means of exact but easily obtained determinations "of latitude and of longitude by chronometers, as well as hypsomet-"rically in the conformation of the surface by barometric measure-"ment of elevations,—so long I consider that the statement I have "repeatedly made, and which I now repeat in 1849, will still be true, "viz: "that it is as yet unproved and *quite premature* to pronounce "that the Isthmus does not admit of the formation of an Oceanic "Canal."

The just inference then, is, that the project, though not impossible, is impracticable, unless that a better route than any yet surveyed should be discovered. Humboldt supposes such a route to exist at or near the terminus of the Isthmus, and calls for an exploration of this part of the Isthmus. He says that he has frequently been applied to for his opinion relative to the feasibility of constructing such a canal, by European capitalists, and that he has uniformly given them but one answer, pointing them to the portion of the Isthmus where it is deeply indented by the Golfo de San Miguel, into which the Rio Tugra, with its tributary, the Chunchunaque, fall, and complains that his advice has never been followed.

We doubt entirely whether any such route exists, although it is a fact that the separating mountain ridges here sink into hills. It is very probable that no great obstacle, here as well as elsewhere on this Isthmus, exists to the mere construction of a canal; but that there are no means of supplying it with water at the summit level. We are confirmed in this opinion, because Mr. Wheelright and his associates, who, by the aid of the British Government, have established steamers from Panama to the west coast of South America, and from Jamaica to Chagres, and who have crossed the Isthmus in all directions, have abandoned the idea of an oceanic canal, and only look to a railroad connection. All agree that to a railroad there are no serious obstacles,

which has been undertaken by American citizens, and is now in progress of execution.

IV. *Rio Atrato, and Rio San Juan de Cauca.*—This route is not now spoken of, although the fact is, here already exists a water communication between the two oceans by the Raspadura canal, which connects the waters of these rivers, and is navigable for piraguas for five months in the year. The mouths of the San Juan on the Pacific not having any good harbor for shipping, would be a serious obstacle; but if everything else were favorable, this, perhaps, might be obviated by leaving the San Juan soon after it passes the mountains, and cutting a canal to Buenaventura, where there is an excellent harbor on Choco Bay. It would, however, be necessary to canal the whole distance from ocean to ocean, which would be very expensive, and when accomplished, could only be used by the smallest vessels.

It will thus be seen that the Isthmus of Nicaragua, as far as known, presents the only practicable route for an oceanic canal. Not only so, but this is the only route where all the material and labor can be procured on the spot for the construction of the work. Labor is abundant and cheap, the price per day being only half a real, (six and a fourth cents,) and the country, except the lower San Juan, the healthiest on the continent. The Isthmus of Panama is a charnel-house, and but thinly settled; while the Isthmus of Tehuantepec is almost an unbroken wilderness. Should even canals be practicable over either of the latter Isthmuses, the labor for their construction would have to be brought from abroad, and which of itself would be a fatal obstacle to the undertaking.

Having thus presented all the facts respecting an oceanic communication by canal across the continent, and finding that the only practicable route falls in the line, and passes through the Mosquito country, as defined by Lord Palmerston, we have a key to the otherwise unaccountable conduct of the British Government in the Mosquito farce. Her recent outrages in that quarter of the globe, in seizing upon Tigre Island, near what will be the western terminus of said canal, and which was ceded to the United States for the express purpose of protecting said work, leave no doubt of her original design, namely, of securing to herself the exclusive right and control over the work.

It may be a question of policy whether we as a nation shall assert the Monroe doctrine relative to European colonization on the Western Continent. That declaration was made when the sun of Spanish Independence and liberty had just emerged above the horizon, and when sister Republics over the whole extent of Spanish America, were ushered into being. The valor, wisdom and moderation they manifested in throwing off the yoke of oppression and organizing their political institutions, gave promise of a glorious future. Statesmen and philanthropists indulged in glowing visions, and bright speculations, upon the future condition of the continent, under the sway of a leagued and united chain of Republics from Canada to Patagonia. Under this view it was that Monroe made the celebrated declaration. But since then how things have changed! Those bright visions have all faded, and the promised fruit has been blighted in the bud. Anarchy

and confusion have reigned instead of law and order, imbecility instead of power; and deterioration, instead of progress. To assert the doctrine of Monroe, we would have to grapple with Europe single handed, without the aid and perhaps even without the sympathy of the anarchical governments of Spanish America. We therefore say that it may be a question of policy, whether we will feel ourselves called upon to vindicate and assert the declaration of Monroe, under all occasions, and maintain the inviolability of every inch of American soil, under the changed condition of things. But one thing is certain where any encroachment by any European power is made for the purpose of circumventing us, and hindering the free expansion of our energy and enterprise, such encroachment will be met with spirited and determined resistance.

ART. III.—THE LICENSE LAWS OF MISSOURI.

Commerce, it is admitted, has been an important and efficient element in the progress of civilization, and must so continue, whilst society remains constituted as it now is. Through its instrumentality nations of every clime, tongue, kindred and creed, have been drawn into friendly contact—exchanging various commodities, one with the other—and thus gradually have each imbibed some portion of the civilization, customs, habits, arts, and ideas, of the others. Hence many old prejudices, contracted views, and false notions, have been made to yield before the advancing car of a higher intelligence, guided by the genius of commercial enterprise. Fraternal intercourse has been extended, adverse opinions reconciled, and war, to some extent at least, has "*smoothed his wrinkled front.*" Nations can no longer rely upon it as an element of power for the accumulation of national wealth, prosperity and aggrandisement: commerce and the civil arts are now the great agents of wealth, as well as of intellectual and moral improvement.

The advance of the christian civilization has been steadily onward, unfolding new beauties as the mental and moral vision of society has enlarged—its advocates are found in every land, its voice is heard in every tongue. In this glorious mission commerce has been an efficient agent in opening the way to that friendly intercourse between all nations, so necessary to the introduction and extension of the christian religion.

If we turn to the early history of commerce in modern Europe, we shall find, with few exceptions, that it was governed by arbitrary and exacting laws, administered by despotic rulers. But, as civilization advanced, and liberal views became more dominant, and intelligence among the mercantile classes increased, the restrictions upon commerce decreased in the same proportion, so that we may now affirm

it to be in accordance with the spirit of the age to approximate as near an unshackled commerce as the domestic policy of nations will permit.

Experience has shown that an active, enterprising, free and enlightened commerce is an important stimulant to the arts and industrial pursuits, as it facilitates the exchange of the commodities of every country and clime. A pursuit so necessary to the advance of civilization, affording so many advantages to a state or nation, should we conclude, receive their attention and fostering care, upon principles of state policy, economy, and interest, if not of equity and justice; yet, such has not been the policy of Missouri in relation to her trade and commerce.

In earlier days all pursuits of industry were under more or less restraint. A license, or privilege from the government or ruler was necessary to the exercise of almost every occupation; but these restrictions were gradually removed, with the exception of those on the professions of law and medicine, on commerce, and, such pursuits and occupations as were deemed prejudicial to the morals and good order of society. Considering the immense responsibility devolving upon the lawyer and physician in regard to property, reputation, health and life, society may be well excused for requiring some evidence of worthiness of so great a trust as that reposed in the lawyer and physician—honesty, capacity and skill, may be well enquired into, as upon these may depend the dearest objects of life. It may also be well enough for police regulations to license dram shops, &c., though we consider this a very questionable policy. For, if a business or occupation is wrong in itself how can a certain sum of money or bonus paid to government, as a price for the privilege of following it; make it right, or lesson its immoral tendencies upon the community. But we cannot perceive how a license to merchants and grocers can add to the safety, morals, or general well-being of society; as no other qualification is required of them than the payment of the tax.

Agriculture, the mechanic arts, and commerce, are the three great and essential industrial elements in the progress of civilization—intimately connected and mutually dependant one upon the other they are silently but surely performing their respective parts in the great social drama. The two former, have no statute restrictions upon them now in the shape of licenses. A farmer, mechanic, artist, or manufacturer, is not obliged to procure a privilege from government to follow his business. Why should the merchant, trader, or grocer, be required to do so? Why make such an invidious distinction between these important pursuits? Why should the merchant or grocer be subject to indictment, fine and imprisonment, for the non-payment of his taxes in contradistinction to other citizens, do justice and equity, demand it? or is it necessary to the well being of society as a matter of police regulation? We think not. No one pretends to assert that it is. Then why pursue a course of policy towards this class of our citizens indicative of distrust, insulting to their integrity and dignity as freemen, fixing upon them a badge of distinction, tending to degradation in the social scale? We hold that such discriminations and distinctions between citizens in the mode and manner of taxing property, are not in harmony with the spirit of American institutions,

and certainly repugnant to the letter of the Constitution of Missouri, which requires "THAT ALL PROPERTY SHALL BE TAXED IN PROPORTION TO ITS VALUE."

Taking it for granted that there is no good reason why merchants and grocers, should be licensed for police purposes, and considering too, that by the act of the last General Assembly; the license system was reduced to the advalorum principle—and, considering also, that there is now an advalorum tax, besides the licenses, upon all goods, wares and merchandise, we may well ask where is the necessity or justice, in retaining the license system at all? Why resort to two distinct methods to collect revenue from the same species of property, unless it was intended by the Legislature to evade the constitutional provisions requiring "that all property shall be taxed, in proportion to its value?"

"The 10th section of the act of 25th March, 1845, provides that the collector shall collect, as an additional tax, such per centum upon all merchandize offered for sale as aforesaid (except such as may be offered in the packages, boxes, bales, barrels, or crates, in which they were imported, or in which they may have remained without being broken,) such an amount as may, for the time being, (be levied) *paid* as tax upon real estate."

The act of the 27th March, 1845, imposed a tax of one-sixth part of one per centum upon both real and personal estate; equal to sixteen and two-third cents on every hundred dollars of value. This law is still in force. But the exception in favor of packages, &c., contained in the 10th section above recited, was repealed by the act of March 12, 1849, which read as follows:

"1. Where the amount of merchandize received for sale by any merchant or grocer, shall amount in value to as much as five hundred dollars or less, the tax shall be one dollar; where the amount of merchandize so received shall amount in value to more than five hundred dollars, and not exceeding six hundred dollars, the tax shall be one dollar and twenty-five cents; where the amount of merchandize so received shall amount in value to more than six hundred dollars, and not exceeding seven hundred dollarss, the tax shall be one dollar and forty cents; and so on in the same proportion, increasing the tax at the rate of twenty cents for every additional one hundred dollars worth of merchandize so received.

"2. The provisions of the preceding section shall be applicable to all merchants, commission merchants and grocers, whether trading as wholesale or retail dealers: *Provided*, that nothing in this act shall be so construed as to repeal the tenth section of an act entitled 'An act to license and tax merchants,' approved March 27th, 1845, so far as the same relates to the collection of an ad valorem tax upon all merchandize offered for sale as aforesaid.

"3. All acts and parts of acts inconsistent with, or repugnant to this act, are hereby repealed.

"This act shall take effect from and after the first day of June next."

The law of 1845 requires that the license shall be renewed at the end of every six months.

By an an act passed by the General Assembly on the 14th March, 1849, it is declared that "all monies invested in the trade, and products of this State, whether the same be on hand, or sent off for sale, shall be subject to tax.

Thus stands the revenue law of Missouri in respect to merchants and commerce at the present time; and although much ingenuity seems to have been displayed for the purpose, as we suppose, of evading the constitution; yet, if we must have a license system, we prefer the present to the former. This bears with equal force upon all whose stock exceeds $500, that, was unequal and favored the large dealer. But we object to the system because it is not in accordance with the genius of our institutions, but is based upon arbitrary distinctions not recognized by the people of this country. We object to it because we believe it to be a gross violation of the constitution of the State,—unjust and oppressive in its operations, and detrimental to our commercial prosperity.

In proposing to abolish this system we have not lost sight of the fact that there must be a sufficient revenue raised to defray the current expenses of the State and keep down the interest on the State debt—nor would we reduce it below that standard. We believe that by equalizing taxes upon all property a sufficient revenue may be raised without increasing the taxes upon real estate, or any other class of property. But we will suppose that in abolishing the system it does become necessary to increase the taxes a trifle upon all property would the great mass, the *producers* and *consumers*, of the country, be injured or loose any thing by it? undoubtedly not. They pay it now; and though indirectly it is not the less a burthen. The wholesale merchant first pays it, the retailer next pays not only the wholesale license but his own in addition, making a double license, all of which must be paid by the consumer. Again, the purchaser of produce in the interior is taxed on his purchases from the farmer, and the purchaser of the same article in St. Louis, if he be a merchant or grocer, pays another tax upon the same commodity; thus, three, four, five, or perhaps six licenses may accumulate upon the same commodity before it gets into the hands of the consumer.

Now, when we reflect that the larger portion of the various commodities entering into the commerce of the West, are articles of necessity, going to supply the common and immediate wants of the great laboring and producing classes, it will be perceived that this tax assumes the form of a burthen upon them of no inconsiderable amount, and should not be persisted in except from necessity.

One argument, in favor of the system, in the minds of some, is that a large portion of the consumers, dependant on the commerce of St. Louis for supplies, are citizens of other States, and that from them we thus get a large amount of State revenue, which is so much relief to our own citizens. This proposition to the superficial may appear to be of some force; but we look upon it as unsound and dangerous—repugnant alike to the true interests of St. Louis and the State at large; and, if persisted in, may transfer the seat of trade and commerce to some other point in the Mississippi Valley; for although St. Louis occupies a central and important location in this great valley, and though she has prospered almost beyond conception and example here-

tofore, yet, in this age of commercial intelligence and enterprise—in this country of freedom, talent, and genius, guided by a spirit of emulation, such as the world has never seen before, we have no reason to suppose that she will continue to maintain her advantage and supremacy under such a system of nigardly policy. The intelligent citizens of other States will not uphold it if Missourians do. They will found another St. Louis on the great "*Father of Waters*," with more liberal laws—a broader and more comprehensive policy. It becomes, therefore, the duty of every citizen having at heart the interests of the State, and who would not thwart the noble destiny of St. Louis, to seriously consider of the best plan of approximating a policy more liberal in its character—more worthy of the dignity and character of the State—more consonant to the genius of our people, and the extraordinary growth and future greatness of our city. If we are true to ourselves, St. Louis has nothing to fear from competition in future time. She must be the great city of the American Continent. But to achieve so great, prosperous, and bright a destiny for her, a policy commensurate with that destiny must be pursued.

We believe that it is only necessary for our merchants, grocers, and others, to make one general and united effort to rid the State of the license system, and it is achieved. Let them address the next General Assembly respectfully, but firmly, and demand justice at their hands —demand that equality, as men and citizens, to which they are entitled.

Before closing this article, we beg leave to call public attention to a serious mistake promulged through the public newspapers of Illinois and Iowa, and not denied, as far as we have seen, by those of Missouri. This mistake was to the effect that *products, the growth or manufacture of other States*, were subject to a license or tax not imposed on those of Missouri. This is an error. There is no such law now in force. It was repealed by the act of the last General Assembly; so that now there is no such discrimination. The products of Missouri are subject, not only to the same license or tax as those from sister States, but a greater, as we will show before we close this article; for, although by the provisions of our revenue laws, the products of our own State are subjected to the same rate of taxation as those of other States, yet we hold that according to the Constitution of the United States, and the decisions of the Supreme Court, no State possesses the right to impose a tax, by license or otherwise, upon goods, wares, or merchandize imported from foreign countries, or from a sister State, and sold by wholesale, bale or package, except what may be absolutely necessary for executing its inspection laws.

This point was decided in the case of Brown against the State of Maryland, (12 Wheaton's Reports, page 419.)

Story, in his commentaries on the constitution, (vol. 2, page 516) says, "no State is at liberty to pass any laws imposing a tax upon importers, importing goods from foreign countries, or from other States. It is wholly immaterial, whether the tax be laid on the goods imported, or on the person of the importer. In each case it is a restriction of the right of commerce, not conceded to the States. * * Sale is the object of importation; and it is an essential ingredient of that intercourse, of which importation constitutes a part. As Congress

has the right to authorize importation; it must have a right to authorize the importer to sell." Again he says: "It is no answer, that the tax may be moderate; for, if the power exists in the States, it may be carried to any extent they may chose.

These authorities cover the whole ground, and are full and clear in support of the proposition, that the law of Missouri authorizing a tax to be levied upon the products of other States sold here by wholesale, bale or package is unconstitutional, and, consequently not binding upon our citizens. And hence the brilllant scheme—if such was ever designed—of raising a revenue from the commerce of other States falls to the ground; and the products and commerce of Missouri is made to bear the burthen alone.

As Journalists, we have discharged our duty in placing, as we believe, the subject upon its true ground, for the benefit of our readers. In Missouri, the question is one of State policy, it depends on the citizens themselves whether they will retain or alter it. There is ample time between now and the next General Election to discuss the objectionable features of the present revenue laws, and if the people are just to themselves we think the next General Assembly will put an end to the present cause of complaint.

ART. IV.—ST. CHARLES COUNTY, MISSOURI.

In the number for October last, we took a birds-eye view of the Point prairie and vicinity of St. Charles city; and the same glance might be extended throughout the county, accompanied by many reminiscenses, by the way, which would add much of interest to many localities passing under review: let us turn aside from this pleasing duty and lay hold on one of more stern reality—that of searching out, and holding up to public view, the resources of St. Charles county, but even this duty, apparently a mere detail of dry statistics, may admit of an occasional offset from the 'tangent' of our narrative, which may afford some relaxation to the mind while engaged in its perusal.

In the first place, then, we will consider the Point below St. Charles, —its soil, productions and convenience to market.

This section of the country has an alluvial soil, of from five to ten feet in depth, with sufficient sand to render it light and easy of cultivation.

The bottom lands, on the Mississippi and Missouri rivers, are covered with a heavy growth of timber—such as oak, walnut, cotton-wood, ash, sycamore, honey locust, hickory, pecan and coffee nut—all valuable for plank and rail timber; together with a variety of kinds valuable for fire-wood. A large and profitable business is done

in wood, on the rivers, by supplying steamboats and rafting and boating to St. Louis.

These timbered lands are on what is called the first bottom, which is very fertile, producing every variety of grain &c., raised on the prairie.

The prairie is partly divided by the Marias Croche, and south of this lake is called the Kitzac prairie, which together with the bottom,* was inundated by the flood of 1844, causing great destruction of property, but is again assuming its wonted appearance as an agricultural district. The main prairie is on a bench, or second bottom, a large portion of which was above the great flood of '44 and is considered to be, essentially, the garden spot of the country, if not of the State; —the soil producing a most luxuriant crop of every species of produce congenial to this latitude—wheat, corn, rye, barley, oats, millet, hemp and flax: the grasses, and all kinds of fruit, vegetable and root crops in the greatest perfection. There has been raised per acre, forty-five bushels of wheat, one hundred of corn, seventy of oats, and so on in like manner of other articles; but, owing to our western mode of cultivation, these figures are above the average yield.

The produce of the Point is hauled to St. Charles, where is found a ready market for wheat and a portion of all other articles, or to either of the rivers, (Mississippi and Missouri,) and shipped to Alton and St. Louis.

Rails, for fencing, are obtained partly, in the bottoms, and partly, rafted down the Mississippi and Missouri rivers, from whence a short haul will place them on the ground to be enclosed. Most excellent well water is found at from twenty-five to thirty feet beneath the surface of the earth, and rock for walls and cellars boated from the Illinois side of the river, or hauled from St. Charles and the Mamelles. Cisterns are much cheaper than wells, the water more pure and healthful to drink, and cemented only, will cost from ten to fifteen dollars per one hundred barrels of water.

Dog prairie, through which passes the Salt river road, is the next in rotation and point of fertility. The name of this prairie is derived from a circumstance that occurred in the early settlement of the country. At a certain gathering of the men for some neighborhood purpose, the dogs got into a snarl and commenced fighting, and soon all of the bipeds present joined in, and the result was—a general melee and bow wow: since which time it has been known by the above, though from the orderly character of its citizens and fine soil it deserves a better name—and would propose that it be known hereafter by that of—"Richland prairie."

This is a rich and beautiful upland prairie gently undulating and produces an average of twenty bushels of wheat per acre, forty or fifty of corn—tobacco and an abundance of every other crop. It is surrounded by rich, arable timbered land, and lies between Peruke creek and Cuivre† river, its produce is shipped down Cuivre which is navigable for small boats about fifteen miles, and the Mississippi rivers or hauled to St. Charles.

*Portions of the bottom were not covered with water.

†Pronounced Borrack and Quiver.

Leaving this prairie the soil changes—it becomes more shallow with a tenacious clay subsoil.

Next comes Allen's prairie, which lies south of Flinthill a small village containing two or three stores, several mechanics of different branches, and a very handsome new church. Proceeding west we come to Graves' prairie: thence, crossing south of the head waters of Peruke creek, comes Hickory Grove prairie, on which stands Pauldingville and through which place passess the Boonslick road. Produce from these prairies is hauled to St. Charles or shipped down Cuivre river.

Passing thence, in a southerly course are Tuque's and Thornhill's prairies which are separated by Dardenne creek, and east is Howell's prairie lying between Dardenne and Femme Osage creeks. Lastly comes Dardenne prairie, situated centrally of the west end of the county and through the whole lentgh of which runs the Boonslick road. This prairie is north of Dardenne creek, and generally on the divide between it and Peruke.

The seven last named prairies are large, gently undulating and afford very extensive and beautiful views: they are surrounded by extensive forests of timber suitable for building-plank, rails, fire-wood; and limestone and other rock for building materials.

The soil, of these last named prairies, is generally such as that described after leaving Richland prairie,—wheat not a certain crop, ten to fifteen bushels per acre—but does better when the land is manured, ploughed deep, and the grain sowed early in the fall. Those who have sub-soiled their land succeed best. Corn thirty or forty bushels, oats a heavy crop, always, timothy does well, but clover is uncertain; buckwheat succeeds finely but is not extensively grown. Invariably, the adjoining woodlands produce better wheat and a fine article of tobacco, which is extensively planted in some parts of the county.

Baugh and Wolf are small prairies, one by one and a half miles, but are said to be rather better for wheat than some of the larger ones.

The valley of Femme Osage, and Darsts bottom on the Missouri river, are very fertile—yielding heavy crops of corn, wheat, hemp, tobacco, oats, timothy, clover, &c. Green's bottom, on the Missouri river, naturally very fertile, was much injured by a deposit of sand during the overflow of '44.

The last section to be noticed is, the celebrated Black-jack region, extending from the city of St. Charles ten or twelve miles, forming the sector of a circle from north to south west, on the periphery of this arc of a circle and on the southern bank of Dardenne creek, stands Cottleville and through it passes the Boonslick road. This is a very fertile region, and will scarcely yield to any country in the production of wheat, corn, oats, timothy, clover, &c. It also contains some mines of stone coal.

Taken altogether, St. Charles is one of the best wheat growing counties in the State of Missouri; and, if attention were particularly turned that way, would yield to none in raising stock—horses, mules, cattle, hogs, and sheep, in which latter article much business is already done, and at fair profits. As an example of what the county might do, and is doing, in the cattle and hog line: Femme Osage and

Darst's bottoms have in them about one thousand head of fat cattle, waiting a rise in the market; besides having fed two thousand head of hogs. Feeding is a business followed by many persons throughout the county; but, situated as we are, convenient to navigation and market, our citizens are enabled to take advantage of prices, either for grain or stock, and sell or feed their grain, as may best suit their notions of finance; and this is particularly applicable to the Point. Our neighbors of the adjoining counties have learned the advantage of being convenient to market, and many droves, during this winter, have been driven here, where food is plenty, and fed until a suitable opening in the market, and then in two or three days could be placed in the hands of the packer at St. Louis.

There are still large tracts of both timber and prairie lands lying idle, which could be purchased at from two to ten dollars per acre. These lands afford a fine summer range for stock. Improved farms can be bought at from three to twenty-five dollars per acre. There is but little public land in the county of much value, except it be for pasture and timber; and this is mostly confined to the low lands of the river, or to the broken, hilly country bordering on the Femme Osage creek. These lands contain much valuable timber---such as black, white, post and red oak, hickory—also lime, soap and sand stone are found in these hills. Specimens of iron ore are to be met with, and no doubt other minerals abound. Coal has been found in lumps on the ravines of Peruke, near its head waters; but at no other place in the county except near to St. Charles. This is owing, no doubt, to the fact that a search has never been made with that object in view.

A very successful experiment has been made in the culture of the castor bean; the yield is large, and affords a handsome profit—our soil is well adapted to its growth. The sumach is indiginous to our soil and climate, and grows luxuriantly in a wild state. It might be cultivated as an article of commerce, as it commands a fine price in the east. The vineyard has received some attention by the Germans of this county, and an article of wine produced, which is said, at least once, to have taken a premium at St. Louis.

The crab apple and plum grow wild in great quantities, and in their season, our prairies are literally strewed with fine strawberries. All kinds of cultivated fruit do well—apples, peaches, nectarines, apricots, and the almond tree, bear a full crop.

The "Pomona" nursery, on Baugh's prairie, contains the prettiest lot of apple trees to be found in this State, or in Illinois. The proprietor's method of preventing his fruit orchard from being injured by the "curculio," is, in the spring to sow it down in oats, and by the time the fruit begins to fall, the hogs are turned in, and there fattened during the fall and winter. Under this practice, the insect never injures the fruit. Others who have tried it are equally successful. He also states that he has succeeded in raising per acre, at the rate of eleven hundred and ninety-six bushels of artichokes: this is furnishing food for hogs at a very cheap rate.

Rice, the seed of which was first brought from South Carolina, has matured here for the two last successive seasons; but on a very small scale. The cranberry, no doubt, could be introduced here, and raised for family use.

Taken altogether, our county is in a prosperous condition. Substantial dwellings, school-houses, and churches are being erected all over the county. But one thing has been too much neglected, and which, if attended to, would add much to the appearance of our already beautiful prairies—that is, the use, on the outside of dwellings, of the paint and white-wash brushes.

There is a great demand for mechanics of all kinds. We are in want, nearly all over the county, of grist and saw-mills—carpenters, blacksmiths, shoemakers, wagon and ploughmakers. Some portable saw-mills have been introduced, which, when there are a sufficient number, will work a revolution in our mode of fencing.

Where rails have to be hauled several miles, with the present cost of two and a half dollars per hundred, a plank fence, when it can be had, is decidedly the cheapest; and even a wire fence, with posts twelve feet distant, and eight strans of No. 9 wire is cheaper than the old fashioned worm fence. This is allowing the same distance to haul the materials, in each case, and includes only the cost of delivering them on the ground.

Dardenne, Femme Osage, and Peruke creeks have on them several grist and saw mills. On Femme Osage is a carding, spinning, and fulling-mill. There are in the county several other wool-carding machines.

On Darst's Bottom, (Missouri river,) there are some natural curiosities. The first is a sycamore tree, which has withstood the storms of many ages, and looks as weather beaten as an old *Tar*. This tree is hollow, with an opening at the base into which a man can ride, and it is said that two men have been inside on horseback at the same time, with sufficient room to turn round and ride out again.

The next is more strange than curious. A single tree, and the only one known in this country, of the Bois d'Are, (Osage orange,) stands on the edge of the bottom, at the mouth of a small ravine. It has half a dozen trunks, which put out from the ground, eight to twelve inches in diameter, forty feet in height, and bearing fruit; but it is thought the seed do not mature. There is no sign of a single sucker to be seen shooting up from its spreading roots; and this fact makes it more valuable for hedging purposes. The wood of this tree is very tough and durable, and is much used by the Indians for making bows; it also dyes a beautiful yellow. The seed from which this tree sprang is said to have been left by the Indians in a moccason, at their camp, where it was found by some of the old settlers and planted, not knowing what it was till very recently.

The third, and last, is certainly one of the greatest natural curiosities within the State. Near the base of a rocky cliff, which is perpendicular, and two hundred feet in height, shoots up a column to the height of about one hundred and sixty feet! Erected by the Great Architect of the universe—as a specimen of durability and grandeur, it stands firmly as the everlasting hills!

Its figure is that of the frustum of a pyramid, whose base is a rectangular parallelogram, and the mean of its sides twenty-eight by sixteen feet. This measure was made at the apex of the debris, from the main cliff, which is about half the height of the column. At this height, the space between the column and the face of the cliff, is four

feet; and, at the apex of the column, the distance is apparently ten or twelve feet. The cliff, and side of the column which faces it, are straight and smooth, leaving no indication that this mighty column was ever united to the main cliff. The material, of each, is a grey friable sand stone. On the face and summit of the cliff are numerous cedars; and upon the summit of the column, there stands a living cedar, fifteen or twenty feet in height! and a dead cedar stump, four or five feet high, with sprigs of dead grass about their roots. The summit is, perhaps, ten or twelve feet square. From this spot, the intervening forest prevents a view of the Missouri river. In many places, there is no accumulation of debris from the cliffs, and we see evident indications that the Missouri river, at some anterior period, rolled past—and washed the base of—*The Cedar Pyramid.*

Three State roads, besides that to Alton, lead into the city of St. Charles, and along these roads have passed through our county for St. Louis, since the first day of October last, about twenty-five thousand head of stock; and this is exclusive of those fed in our own country.

St. Charles has its mill which manufactures two hundred barrels of flour per day—its saw and grist mills, merchants and mechanics; but still needs for its future prosperity something more. It must have a slaughtering and packing establishment; a tobacco inspection, in short, she must set up for herself. Every manufacturer, mechanic and non-producer, who settles down amongst us, adds so much towards providing a home market for the produce of the farmer. We of the west, are not troubled how to make more blades of grass to grow, but rather how to find a market for those already on hand; the true secret of which, is to build up manufactures in the heart of the region which produces the food and raw material.

ART. V.—RAILWAY FROM ST. LOUIS, TO THE WESTERN BOUNDARY OF MISSOURI.

In the last number of the Western Journal we published a list of the railway charters granted by the General Assembly of Missouri, during the session of 1848-9; but at the time when that list was sent to press we had no expectation that any step would be taken, at an early day, towards the commencement of the road from St. Louis to the western boundary of this State. For, notwithstanding that we, in concert with a few others, were instrumental in procuring the charter, yet, we entertained but little hope that the work would be commenced in many years, or at least until Congress should determine to construct the great Pacific railway. This charter was obtained without being asked for by the citizens of any part of the State.

The measure was brought before the Legislature, as we are advised, by two members of that body from the city of St. Louis, who conceived that the charter might, possibly, in some way, be made to effect and promote the project of a railway to the Pacific ocean. As no one out of the Legislature had applied for the charter it met with little opposition; and its authors were allowed to frame the bill in conformity with their own views: and consequently it is as liberal in its provisions, and as favorable to the interest of the stockholders, as they could reasonably desire.

Thus brought into existence, this charter remained unobserved, and almost unknown, by the people, even of St. Louis, until within a few days past, when our enterprising and well judging citizen, Thomas Allen Esq., one of the directors named in the charter, moved in the matter, and brought the subject before the public. The success attending this movement has, to the present time, far exceeded our most sanguine expectations. The books were opened on the fourth day of the present month; and at the close of the first week the subscriptions amounted to $305,500 dollars. This amount, however, may appear small to those unacquainted with the circumstances connected with the subject; but to us it affords strong evidence, not only that the work will be commenced at an early day, but that it will be prosecuted with energy.

It has been said that the delay on the part of some of our large property holders in subscribing for stock, evinces, not only a distrust in the enterprise, but a want of public spirit also: such remarks, we think, must be regardod as ill timed. The movement was not anticipated: the proposition to commence the work was brought forward suddenly, and it was not to be expected that men who have never engaged in works of this nature, and whose means are profitably employed, would subscribe for stock without taking time to deliberate. When the merits of the enterprise shall have been fully discussed, and, its influence on the value of property in St. Louis, and along the line of road, is properly appreciated, we may then expect to see our cautious and well judging capitalists the most efficient supporters of the work. The directors, we think, acted wisely in resolving to cause a topographical and geological survey of the route, to be made without delay. The result of these explorations, if as favorable as we anticipate, will be calculated to bring forward subscribers of that class who look alone to the prospect of large dividends; and if it can be shown that the stock will be as safe and more profitable than mortgages, the completion of the work will be placed almost beyond contingencies.

We will not affirm that this road will pay dividends, satisfactory to capitalists immediately after it is opened for business; but we are fully persuaded that it will, before the lapse of many years, become one of the best paying roads in the United States. The main stem will pass through, or near, the iron beds of the Merimac and Osage valleys, and over the cannel and bitumenous coal deposites of the central and western counties of the State; and it is highly probable that the transportation of these two articles alone, will, at no distant day, pay a fair profit on the stock; for, by a few short branches, every part of the rich mineral region of south Missouri could be penetrated;

and who can assign a limit to the amount of tonage that will be drawn from that quarter?

This road will constitute the base of an extensive system that is destined to embrace a portion of the State of Arkansas, Texas, and the fertile region west of our own State, as far north, at least, as the valley of the Kansas. In all this region, St. Louis has no rival; and it only requires a glance at the map to convince the mind that a large portion of the produce, general commerce and travel of this vast region, must pass over some part of this road. It would be folly to undertake to show by figures, the amount of tonage and travel that this extensive country will afford. We know that it abounds in mineral wealth, consisting chiefly of those articles most necessary and useful; it contains an extensive area of fertile soil, productive in almost every article necessary to human subsistence and comfort; and, withal, blessed with a salubrious climate. These facts are more reliable than figures; they were impressed on the earth at the time of its creation, and will remain fixed as long as it endures.

In looking to the sources of profit, we have taken no account of the travel to New Mexico, Deseret, California, and Oregon, that must pass over this route; for, although this travel will constitute a large item in the business of the road, we have preferred placing the calculations of profits upon the resources of our own State. And, notwithstanding, we have strong confidence that sooner or later this road will constitute a link of the great Pacific Railway, yet we would not urge this as the principal inducement to subscribe for stock: the enterprise possesses sufficient merit without connecting it with a contingency.

But what will the work cost, and how are the means to be raised to construct the road? These are important inquiries. The first can be answered, with sufficient accuracy for all practical purposes, by the Engineer when he shall have completed his survey and estimates; the latter cannot be so readily solved. Two hundred and fifty miles may be assumed as the length of the line of road; and twenty thousand doliars as the cost per mile,—making the entire cost five million dollars; this, we think, is not far from the truth: but how is so large a sum to be raised? We are authorized to conclude, from what has already been done, and from opinions expressed by men well acquainted with the population of St. Louis, that the subscriptions of individuals here will extend to $500,000 at least; and, that stock to the amount of $500,000 will be taken by the city, in its corporate capacity. Here is $1,000,000 to commence with.

The road will pass through about nine counties, and we feel persuaded that if the subject is properly presented to the citizens of those counties, they will, in their corporate capacities, subscribe at least the amount of one million dollars. No one, we think, who will give the subject the slightest consideration, can doubt that it will be to their advantage to give liberal encouragement to the work.

If the effect produced on the value of real estate in other parts of the Union can be regarded as a criterion, we should hazard little in affirming that the lands, in the several counties through which the road will pass after leaving the neighborhood of St. Louis, will be enhanced one hundred per cent., in value, by reason of its location. And it would not be long before the increase in the value of taxable

property would be sufficient to pay a large portion, if not the entire interest, on the money invested. But supposing this should not be the case, yet, these counties would suffer but a temporary inconvenience, which would only continue until the road shall have been completed; for then, we think, their stock will be worth what it cost, and they can sell, or keep it, as may best suit their convenience.

The next resource to be looked to is an application to Congress for a donation of public lands. Many applications are now before Congress for lands in aid of railway and other improvements; and none, we think, can present stronger claims to assistance from the Government than the Pacific Railway. This road will pass through three land districts, in which there were on the first day of January 1849, 10,141,757 acres of public land; and, besides this, there remained at that date, 14,559,804 acres of unsold public land in the two southern districts, amounting in all to 24,701,561 acres of Government land, all lying south of the Missouri river, excepting, perhaps, from one to two million acres, the most of which has been in market for many years: surely it would advance the interest of the Government, as a land holder, to give five per cent. of this land for the purpose of constructing rail ways through it.

And furthermore, the completion of this road will greatly facilitate the construction of the great Pacific railway, provided it should commence on our western line. Were these considerations fairly presented to Congress we confidently believe that it would grant at least 1,000,000 acres of the unsold land in Missouri in aid of this road. This land, if judiciously selected and managed, might be sold by the time the road shall have been completed for at least one dollar per acre; and probably at one dollar and fifty cents. Here, then, is the sum of $3,000,000, which, we believe, can by active exertions on the part of its friends be brought to the aid of this work.

And should Congress make a liberal donation in favor of this enterprise it would so increase the value of the stock as to cause it to be sought for, and the consummation of the work would be secured beyond all doubt.

That St. Louis will do her part we have no doubt; but it is necessary to arouse the citizens along the line. The people of the west, especially of Missouri, are not generally informed upon the subject of internal improvements; and, are consequently incapable of appreciating the immense advantages which they afford. It is therefore the duty of the friends of the road to stir them up. Let some intelligent individual visit the counties along the proposed route; and canvass the subject before the people; this course has been pursued in other States with signal success, especially in Tennessee and Alabama; and it will succeed in Missouri likewise, if undertaken by the right kind of individuals.

The following is a copy of the act of incorporation:

AN ACT TO INCORPORATE THE PACIFIC RAILROAD.

Be it enacted by the General Assembly of the State of Missouri as follows:

"§ 1. A company is hereby incorporated, called the Pacific railroad, the capital stock of which shall be ten millions of dollars, to be divided into shares of one hundred dollars each; the holders of which, their successors and assigns, shall constitute a body corporate and politic

and by the name aforsaid shall have continued succession, may sue and be sued, plead and be impleaded, defend and be defended against, and may make and use a common seal, and shall be able in law and equity, to make contracts; may take, hold, use, possess and enjoy the fee simple or other title in and to any real estate, and may sell and dispose of the same; may make by-laws, rules and regulations proper for carrying into effect the provisions of this act, not repugnant to the constitution or laws of the United States, or of this State, and shall have the usual and necessary powers of companies for such purposes.

"§ 2. John O'Fallen, Louis V. Bogy, James H. Lucas, Edward Walsh, George Collier, Thomas B. Hudson, Daniel D. Page, Henry M. Shreve, James E. Yeatman, John B. Sarpy, Wayman Crow, Joshua B. Brant, Thomas Allen, Robert Campbell, Pierre Choteau, junior, Henry Shaw, Bernard Pratte, Ernst Angelrodt, Adolphus Meyer, Lewis A. Benoist, and Adam L. Mills, or any nine of them, shall constitute the first board of directors under this act, and shall hold their offices until their successors shall be qualified; they shall meet at such time and place as shall be designated by any three of them, and organize as a board of directors, and when organized they shall cause books to be opened for the subscription of the capital stock of said company, at such times and places as they may designate, under the supervision of such persons as they may appoint, and may continue them open so long as they may deem proper, and may re-open such books, when necessary, until the whole stock shall be subscribed.

"§ 3. So soon as two thousand shares shall be subscribed the directors shall cause an election to be held for nine directors, at such time and place as they may appoint and give notice of in two or more public newspapers.

"§ 4. An election for nine directors shall be held on the last Monday in March, in each year, and if not held on that day, an election may be held at any other time that the directors shall designate; the election shall be held under the supervision of one or more stockholders, and the persons receiving the highest number of votes shall be elected, and shall continue in office till their successors be qualified. Every stockholder shall be entitled to one vote for each share held by him, and he may vote by proxy; soon after their election the directors shall meet and elect one of their number president, who shall hold his office for the term for which he was elected director, and until his successor shall be qualified.

"§ 5. The directors shall appoint, agents, clerks, engineers, superintendents, and other officers and servants for said company; shall keep a journal of their proceedings; shall cause correct books and accounts to be kept; they may determine by by-laws what number of directors shall constitute a quorum; and may appoint committees, and fill all vacancies in any office under said company; they shall fix the salaries of the president, and the officers and agents; but no director shall receive any compensation for his services as such. They may take security from their officers and agents, and may adopt such measures and do such acts as will be best calculated to promote the prosperity and usefulness of said company.

"§ 6. The directors shall make and advertise calls for the payment of the capital stock, at such times and in such manner as they

may deem proper, and if any stockholder shall fail to pay any such requisition within ten days after the time appointed, the said company may recover the same with interest, and if not collected may declare the stock forfeited and sell the same; and no delinquent stockholder shall vote in said company.

"§ 7. Said company shall have full power to survey, mark, locate, and construct a railroad from the city of St. Louis to the city of Jefferson, and thence to some point in the western line of Van Buren county in this State, with a view that the same may be hereafter continued westwardly to the Pacific ocean; and for that purpose may hold a strip of land not exceeding one hundred feet wide, and may also hold sufficient land for the construction of depots, warehouses, and water stations; and may select such route as may be deemed most advantageous, and may extend branch railroads to any point in any of the counties in which said road may be located.

"§ 8. Said company may take voluntary relinquishments of the right of way for said road, and the necessary depots and water stations; and if the land through which such road shall pass shall belong to minors, in whole or in part, the guardian or curator of such minor shall have power to convey to said company so much of the land as may be necessary for the purposes aforesaid, on fair and equitable terms; but every such conveyance by a guardian shall be subject to the approval or rejection of the probate or county court in which such guardianship is pending.

"§ 9. If any owner of any tract of land through which said railroad shall pass, shall refuse to relinquish the right of way for said road to said company, or if the owners be infants or persons of unsound mind, or non-residents of the State, the facts of the case shall be specifically stated to the judge of the circuit court of the county in which such lands are situated, and said judge shall appoint three disinterested citizens of the county to view said lands, who shall take into consideration the value of the land, and the advantages and disadvantages of the road to the same, and shall report under oath what damages will be done to said land or any improvement thereon, stating the amount of the damages assessed, and shall return a plat of the land thus condemned. Notice of such application to judge shall be given to the owner of such land five days before the making of the application, if such owner reside in this State, or to his guardian; and if such owner be a non-resident of this State, he may be served with actual notice, or by an advertisement for four weeks in some public newspaper.

"§ 10. The persons appointed to view and value such land shall file their report and plat in the office of the clerk of the circuit court of the county in which the land or a part thereof is situated, and if no valid objections be made to said report, the court shall enter judgment in favor of such owner against such company for the amount of damages assessed, and shall make an order vesting in said company the fee simple title of the land in such plat and report described; objections to such report must be filed within ten days after the same shall be filed, which objections shall be examined by said judge, in term time or vacation, and he may hear testimony and by judgment confirm said report, or may set the same aside and appoint three other

viewers, who shall proceed in the same manner and make their report, until a report shall be confirmed. In all such cases the court shall adjudge the costs of the proceedings according to equity, and the said court shall have power to make such orders and take such other steps as will promote the ends of justice between the owners of such land and said company.

"§ 11. Said company may build said road along or across any State or county road, or the streets or wharves of any town or city, and over any stream or highway; but whenever said railroad shall cross any State or county road, said company shall keep good and sufficient causeways or other adequate facilities for crossing the same; and said railroad shall not be so constructed as to prevent the public from using any road, street, or highway along or across which it may pass; and when said railroad shall be built across any navigable stream, said company shall erect a bridge sufficiently high on which to cross, or shall construct a draw-bridge, so that in no case shall the free navigation of such stream be obstructed. When any person shall own lands on both sides of said road, said company shall, when required so to do, make and keep in good repair one causeway or other adequate means of crossing the same.

"§ 12. Said company shall commence the construction of said road within seven years, and shall complete the same within ten years thereafter; and said company shall have general power to use, manage, control, and enjoy said railroad; shall determine what kind of carriages shall be used thereon, and by whom, and in what manner, and shall determine the terms, conditions, and manner in which merchandize, property, and passengers shall be transported thereon; and shall have power to construct and keep such turnouts, gates, bridges, culverts, tollhouses, depots, warehouses, causeways, and other buildings, machinery, and fixtures as may be necessary; said company may receive such tolls and freights as may be determined on by the directors, and shall keep posted up statements of the rates of toll and freight to be charged.

"§ 13. Dividends of the profits of said company shall be made annually, or oftener if necessary; but the directors may reserve or set apart a portion of the profits as a contingent fund to meet expenditures and losses.

"§ 14. It shall be lawful for the county court of any county in which any part of the route of said railroad may be, to subscribe to the stock of said company; and it may invest its funds in the stock of said company, and issue the bonds of such county to raise funds to pay the stock thus subscribed, and to take proper steps to protect the interests and credit of the county; such county court may appoint an agent to represent the county, vote for it, and receive its dividends; any incorporated city, town, or incorporated company, may subscribe to the stock to said railroad company, and appoint an agent to represent its interest, give its vote, and receive its dividends, and may take proper steps to guard and protect the interests of such city, town, or corporation.

"§ 15. At every annual meeting of said company the directors shall make to the stockholders an exhibit of the affairs and condition of the company. One seventh part in interest of all the stockholders

may call a meeting, by giving four weeks notice in two public newspapers.

"§ 16. When said road shall be completed the company shall file a plat thereof in the office of the Secretary of State; and the legislature may at any time require a statement from the company as to the progress of the work, the amount of business, and the receipts of the company; and the books and accounts of said company may at any time be investigated by a committee appointed by the General Assembly.

"§ 17. Said company shall keep a fair record of the whole expense of constructing said road; and at the end of fifty years the State shall be at liberty to purchase said road by paying to said company the amount at which it shall be valued, by persons to be mutually chosen by the State and by said company; but two years notice shall be given to said company of the intention of the State to purchase the railroad.

"§ 18. When any person shall cease to be a stockholder, he shall cease to be a member of said company.

"§ 19. If any person shall wilfully injure, obstruct, or destroy said railroad, or shall break, destroy, or deface any work, edifice, or other fixture or improvement belonging to said company, he shall be considered guilty of a criminal offence, and shall be punished in such manner as shall be prescribed by law, and shall also be liable to said company for all damages by it sustained.

"§ 20. The operations of said company shall be confined to the general business of locating, constructing, managing, and using said railroad, and the acts necessary or proper to carry the same into complete and successful operation.

This act shall take effect from its passage.

Approved March 12, 1849.

ART. VI.—SCIENTIFIC AND PRACTICAL AGRICULTURE.

We commend the following article to the perusal of our agricultural readers—and not to them alone, but to all who delight to contemplate the laws and economy of nature:

From the Genessee Farmer.

The most abundant mineral in the earth is flint, or silica, which forms sand, and will melt into glass if pure—an operation that is promoted by the combination of potash, soda, or lime. Silica constitutes an important element in the stems of all cereals, like wheat, rye, oats, corn, &c. Pure silicous sand is remarkable for its insolubility. It is, in truth, an acid formed by the union of fifty-two parts of oxygen, with forty-eight of an earthy base called silicon. This acid combines

chemically with alumina, which is the next most abundant mineral in nature, being the basis of clay. Silicic acid also unites with iron, lime, potash, soda, and magnesia. Having a weak affinity for these alkalies, and alkaline earth, carbonic acid in water from decaying mould, vegetables, or manure, attacks the insoluble silicates of potash and soda, and forms carbonates of those alkalies. These, like pearl-ash, are very soluble; and what is particularly worthy of note, they are capable of dissolving silica. Thus, if we boil finely powdered glass, which is an insoluble silicate, in a strong solution of potash, or of potash and soda, the glass will be dissolved, and may be applied to the roots of corn or wheat, in a way to enter their roots, and go to make the hard glassy covering on the stems of those plants. It is curious that these soluble silicates, which contain an excess of the alkali, should be changed into insoluble silicates of potash or soda, in Nature's laboratory within plants, by separating potash or soda from the silica deposited in the cuticle. The potash, so liberated, returns to the soil, and there dissolves more of the flint, needed to impart strength to the stem of the plant: precisely as bones enable animals to stand up on the earth.

It is worthy of remark, in this connection, that many soils which abound in sand, as in parts of Maryland, Virginia, North and South Carolina, and Georgia, lack even the insoluble siliciates of potash, soda, magnesia, and lime, to a degree. To such soils it is desirable to apply not only ashes, leached or unleached, but forest leaves, and such vegetable substances as abound in potash, as well as the other earthy food of cultivated plants. Thus, one hundred pounds of corn cobs will, as they rot, yield more potash to a soil than a like weight of buckwheat straw. Indeed, the component parts of all fertilizers, and of all crops, should be generally understood by husbandmen. A vast amount of labor is wasted in gathering poor or defective fertilizers, where good ones might be obtained at a much cheaper rate. I have briefly alluded to nitrogen, sulphur, phosphorus, and chlorine as volatile constituents of vegetable and animal substances, which, combined with hydrogen at the time organic bodies decay, rise into the atmosphere. They deserve a short notice as fixed mineral acids in rocks and earths.

When forty parts, by weight of oxygen, combine chemically with fourteen of nitrogen, fifty-four parts of *aqua fortis* (nitric acid) are produced. This acid, combined with potash, makes saltpetre, or nitrate of potash. This salt, as well as nitrate of soda, is involatile; and both are found in considerable quantities in hot climates, where vegetation grows luxuriantly, and rots as rapidly. It is believed by chemists, that electricity in thunder-clouds often serves to combine the oxygen and nitrogen of the air in proportions to form nitric acid, which falls to the earth in rains. Compounds of this acid are quite soluble, and, in all well drained soils, nitre and all the nitrates are prone to be washed away.

Twenty-four parts of oxygen combine chemically with sixteen of sulphur, and make forty of sulphuric acid, or oil of vitriol. Unlike nitric acid, this exists in granitic and other rocks, as well as the common loose earths. Its salts are very numerous. Combined with alumina and potash, it forms alum; with iron, it produces copperas;

with soda, it gives glauber salts; with magnesia, epsom salts; with copper, blue vitriol; with zinc, white vitriol; and with lime, gypsum. The sulphate of lime, or plaster of Paris, being less soluble than the other compounds of sulphuric acid, we usually find more of this mineral in soils—especially such as are properly drained—than alum, copperas, glauber or epsom salts. *Sulphur*, being an indispensable element in all crops and all flesh, I attribute the value of gypsum mainly to the sulphur which it yields to clover, peas, wheat, and other cultivated plants. In one hundred pounds of wool or hair, there are five of pure sulphur. If the food consumed by sheep and other animals contained not an atom of this ingredient, how could their wool, hair, muscles, brains, and nerves all abound in this element? Minerals that contain sulphur should be well husbanded. All sulphates are involatile but most of them are extremely soluble.

Five atoms of oxygen combine chemically with one of phosphorus, to make an atom of phosphoric acid. The atomic number of phosphorus is not clearly settled; some chemists making it 31.4, and others only half that number.

Phosphoric acid exists in earths as a phosphate of alumina, iron, lime, magnesia, soda, and potash, and often as double salts. Some of these salts are quite soluble—others not. The phosphate of lime, or bone-earth, is the most important. Suppose nature should organize crops of grass, grain, potatoes, and all the plants which we harvest, as well without a particle of bone-earth as with it? Living on bread, milk, and other food, alike devoid of this dissolved mineral, phosphate of lime, which *alone can make bone*, no child could have a bone in its body. I desire to impress on the mind of the reader this truth: a kind and All-wise Providence does not permit cereal and other plants used as food for man, and the higher classes of animals, to grow one degree beyond the supply of bone-earth in the soil. Such food would be worse than useless. If animals fail to find their proper nutriment in one place, God gives them power of locomotion to walk, fly, or swim to another place, and seek for it there. But, upon a stalk of corn has organized a cob, and a few kernels at its base; if the stock of raw material fails, no more kernels can possibly grow. If they did, and lacked the elements that a pig must have to form bone, brain, and flesh, it would be mighty poor corn for pigs or children to eat for bodily nourishment.

In one hundred pounds of dry common salt there is about sixty pounds of chlorine. When free, it is a heavy, green, and very pungent gas. Some thirty-six parts of this combined with one of hydrogen, form in water, muriatic acid, or hydro-chloric acid, as it is now more commonly called. As a class of minerals, the chlorides or muriates are very soluble, like the chlorides of sodium, or common salt. They do not abound in soils. Common salt has been used as a fertilizer some three thousand years—both soda and chlorine entering into the composition of all or nearly all crops. Most quadrupeds are extremely fond of salt; and all civilized people season their daily food with it. It is curious that potatoes and wheat cannot be salted enough while growing; and that no degree of salting a fatting steer will suffice,

so that a little added to a fresh steak will not be an improvement. "Ye are the *salt* of the earth," has not less an agricultural than a moral meaning.

With regard to the value of lime, magnesia, potash, soda and iron, in organizing cultivated plants, perhaps nothing need be said. I have never anylized a soil that lacked iron; like silica, iron is not always in a soluble and available form. The practical farmer should understand that such constituents of plants as are soluble, a few years tillage and fair drainage render scarce; and such as are ordinarily insoluble, without the aid of decomposing, mold or vegetables, cease in a great degree to yield their nutritive atoms to famishing crops. Bear in mind that between forty and fifty cubic inches of water fall on every square inch of surface in the course of twelve months. If the ground has been cultivated, and really contains the food of plants in a soluble condition, this water will of course dissolve alike the organic and inorganic elements of vegetables. I have frequently washed from ten to fifty pounds of soil in pure rain water as it falls from the clouds, and then filtered and evaporated the water to see what substances were held in solution. I have never failed to get combustible and incombustible elements, and often nearly equal parts of each. By leaching fifty pounds of soil a few weeks with warm rain water, and then anylizing the matter dissolved out one can judge with some confidence of its defects and productiveness.

In studying the various processes by which the fertility of a cultivated field becomes impaired, I have been led to believe that much depends on the proportion of the water that evaporates on the earth where it falls, and that which runs off either on the surface or under it, into springs and rivulets, to form creeks and rivers. Deeply tilled land will absord twice as much rain water as shallow tilled will; and the former will retain twice as much to carry the crop through a drought, for evaporation at the surface of its numerous leaves, as will the latter. But most of the cultivated lands in the United States are neither tilled *deeply* or uniformly covered with *growing* vegetation, to absorb and fix in its tjssues the dissolved food of plants.

The more the soil is stirred with the hoe, cultivator, or plow, the faster the elements of crops are set free by clemical action, and will be lost by solar evaporation, washing, and leaching, if such elements are not taken up by growing plants and retained to them. Berzelius found two organic acids in clear spring water, to which he gave the names of "crenic" and "apocrenic," from *krene*, the Greek for a "spring." River water always contains both the organic and inorganic food of plants. The quantity of the fertilizing atoms which is wasted in the planting States, is infinitely larger than one man in a thousand ever suspects. As a similar waste prevails at the North, only much less in extent, I desire to give a clear exposition of my views on this, the practical part of my theme.

Although both cotton and corn are planted early, and often gathered late at the South, yet cotton and corn-plants do not gain much in weight beyond four months for the former, and three months for the latter. During the first four or five weeks after the seeds germinate, the young plants are too small to imbibe any considerable quantity of nutritive matter of any kind from the soil. As they approach matu-

rity, they gain less and less in weight, and, of course, abstract less and less fertilizing matter from the earth or atmosphere. During the past season, I have watched with lively interest the organization or growth of corn, which yielded from five up to fifty bushels per acre. If I express the opinion that a crop of five bushels exhausted the soil about as much as one of fifty, some will esteem the remark about as sensible as to say that five sheep will eat as much food as fifty. The cases are not parallel. If a crop of corn, equal to the production of five bushels per acre, does not exhaust the soil as much as it would if ten times larger, the only reason that can be assigned is, that the elements of corn-plants are in truth not present in the sterile earth, to be removed. On poor land, it is found necessary to give each stalk three times more surface of earth to imbibe nourishment from, than on good land. When there is but a single plant to twenty-four square feet of surface, and that plant a very small one, my impression is, that even during the period when it grows the fastest, it fails to take in at its few small roots, more than a third of the available atoms evolved by the decay of the organic and the solution of the earthy food of the plant, within the square which it occupies. I will not say that all the gases and earthy salts derived from rotting mould and vegetables, and from dissolved lime, potash, soda, and magnesia, which fail to enter the corn-plant, are lost. But this I will say, that I see no reason to doubt the loss of most of these volatile and liquid atoms. I would about as soon have a field cropped ten years, and all the corn or cotton entirely removed, root and branch, as to have it well plowed and hoed ten years, and no vegetable whatever permitted to organize carbon, nitrogen, and the elements of water, and the minerals which form the ashes of corn, cotton, and wheat, in the field.

There are some seven millions of acres planted in cotton in the United States every year. And as the plant is little used to feed domestic animals, and most of its seeds are returned, after rotting, as manure, no crop should injure the soil so little. But the clean culture and long tillage which it demands, make it the most exhausting crop that is grown in the Southern States. As now cultivated, it wastes three times more food than it eats. And such is my judgment in regard to not a little of the corn and tobacco-culture which I have seen. I come now to the consideration of preventives and remedies.

To save from waste and loss the constituents of bread and meat, as they are climated by tillage, *they should be immediately organized in some living vegetable.* This is the process employed by Nature to renovate soils that have been impoverished by unwise cultivation, or by other means. It is the only way in which a soil can be made to increase in fertility, without adding fertilizers from elsewhere to it. Much as has been written on the subject of renovating poor lands, which have been injured by excessive cropping, and improving such as are naturally defective, the subject is very little understood. I have in my eye an old field which was scratched with the "bull tongue" plow and the hoe, a little longer than any crop would grow, and till its surface was as bare the year round as the desert of Sahara. A thin, spindling grass, a few stunted weeds and young pines have begun the work of making a new soil on this sterile waste. In this natural process of renovation the *pine* is the king of plants. Nature

has provided its seed with an apparatus which serves the same office performed by the down on the seed of thistles, *i. e.*, to enable it to be borne a great distance by winds in all directions. The seed of the pine no sooner germinates, than it extends its small tap root deep into the ground, in search of a very little of the alkalies and alkaline earths, without which it cannot organize carbon and the elements of water into woody fibre. Supplied at first with two green leaves and a small root, and mainly from nutritiment stored up in the parent seed, it is prepared to perform the legitimate functions of all growing plants, viz: to decompose carbonic acid and water by the aid of solar light, and with a little available nitrogen, potash, etc., to organize its tissues and gain in weight and substance. In forming ten pounds of common pine wood, nature deposits in its tissues and consumes from the earth not more soluble salts or *ashes* than can be got from a single pipe full of tobacco. And yet, wonderful to tell, I find four per cent. of ash in the dry leaf of the long leaf pine. But all these numerous and weighty leaves annually fall on the surface of the ground, to rot and form ——— what? Why, a *mold*, rich in organized carbon; rich in salts of lime, potash and magnesia; the former taken from the atmosphere and the latter from the subsoil.

Here is the first letter of the alphabet in the science and the philosophy of accumulating bread and meat in the surface soil. Study the ways of Providence; wisely imitate His example, and a barren plain can be converted into a fruitful garden. The pine is an evergreen, and grows the year round.

The first thing I did when I came to Georgia, a year and a half ago, and saw the extreme nackedness of the land was to recommend the seeding with rye, at the last plowing in corn fields, or soon after the crop ceases to grow, with a view to have this winter plant gather up from August till March whatever available atoms might be within reach of its roots and leaves. As the earth does not freeze, and heavy, washing rains fall in winter, "the fat of the land" is largely consumed, and is either lost, like a burned candle, in the atmosphere, or carried like water from a dung-heap into ditches and "branches." Barley, oats, and wheat all do well here sown in November or December. It is now the 6th of February, 1849, and I have this day seen a field of oats which has been cut in part for soiling for some weeks. Another in barley, is so stout as to fall down or lodge.

Winter pastures of rye are very valuable for stock of all kinds, although there are some clayey soils that the treading of cattle and sheep injure.

Acting on my theory of keeping the earth always covered with some growing vegetation, Mr. M. B. Moore, of this city (Augusta,) raised last season 34 1-2 bushels of wheat from one seed,* which was harvested about the 10th of May: then a crop of hay, equal to a ton and a half to the acre, which was mown in August; and then a crop of peas, which was harvested in November; all from the same land. The land is now in wheat, to be harvested in May next, as before. There is no difficulty in growing three crops of small grain in a year at the South, if one is cut green for hay, as oats, peas, barley, and rye are often cut. To enrich the soil, I assume that manure derived

*Query. One acre?

from both the grain and straw or of the green crops, is all carefully saved and duly applied to the land. As about sixty per cent. of the hay and other food eaten by a cow, sheep, or horse is lost in vapor and carbonic acid, thrown out of the lungs in the process of breathing and through the pores of the skin in insensible perspiration, one will increase organic matter in a poor soil much faster to plow in clover, peas, timothy, and rye, than to feed these domestic animals, and apply all their excretions to the land.

I am well aware that clover has long been used in connection with wheat culture to enrich cultivated earth. It was a knowledge of this that led me to believe that to sow rye in corn, potatoe, and oat fields in autumn, to be plowed in for the feeding of the next summer crop, would be useful anywhere, north or south. I find that a kernel of rye will organize from October till the first of April, a plant which, when dry, will weigh one hundred times more than the parent seed. I call this gain of ninety-nine parts for, one cheap manure, which is already evenly spread over the rye field, and ready for the plow in the spring. A man's farm is in truth a chemical laboratory, and he should study to turn the frosts of winter, the sunshine of summer, the rains of spring, and the dews of autumn to the best possible advantage. Very late plowing to freeze compact earths, and very early seeding, are worthy of attention at the North. I am in favor of pretty thick seeding and planting, partly as a better covering and protection to the soil and partly because I have generally found the best practical farmers to concur in recommending it. Under our present exhausting system of tillage there is far more land under plow in the United States than is really desirable or profitable. The correction of the evil of running over a great deal of surface to produce a little corn, wheat, cotton, or tobacco, is not to be expected during the life-time of the present generation. Boys may be made to understand that it is much cheaper to make five hundred bushels of corn on ten than on one hundred acres; but few men forty years old that practice the exhausting system now will ever pursue any other. Talk to them about carbon and the sub-soil, and they will soon fill both ears with cotton. Persons twenty years younger are generally willing to learn why one hundred pounds of pea vines will make richer vegetable mold than a like weight of bullrushes. Seeing that an acre of tilled soil, which gives about fifteen bushels of corn, has the same sunshine and an equal amount of rain and of atmospheric gases that fall upon an acre that yields sixty bushels, young men will study closely the slight difference in the two soils in their mechanical texture, the solubility of their fertilizing atoms, and in the abundance or scarcity of each constituent element. If *tillage, as an art*, was all that is required to give abundant harvests, then equal culture should be followed by equal crops on fields that produce the one five and the other fifty bushels per acre. No uniformity and thoroughness of tilth can work a uniformity in the growth of plants in soils that unequally abound in the precise things demanded by nature to organize the crop. To aid in decomposing insoluble silicates of potash, and in evolving sulphates, phosphates, and chlorides in compact, impervious clay, I have seen no one mineral operate better than lime. This is coming into pretty general use at the South to facilitate the renovation or im-

provement of old plantations. Gov. Hammon, who plants a few miles below Augusta, on the South Carolina side of the Savannah river, has used over 200,000 bushels of unburnt shell lime within the last ten years. I have witnessed its effect the past season with surprise. On well drained swamp lands its use is most marked and auspicious; although it is serviceable on dry uplands. Thorough draining is an indispensable preliminary to the improvement of ground that needs it. One man has twenty miles of ditches on his farm near this city. Peas are largely used to enrich land, by turning them under with the plow when in blossom. Deep plowing and subsoiling are gaining in the public esteem every month. Domestic animals are fed and kept much under shelter by skilful farmers, in order to save all their liquid and solid droppings from waste by solar evaporation and leaching by rains. Cow yards in the State of New York often sustain a great loss of the fertilizing elements to manure.

Good husbandry implies the faithful husbanding of all the elements of bread, milk, and meat in every change of form which these atoms undergo. Man is incapable of creating one new atom or of making an atom of sulphur perform the function of an atom of phosphorous, or one of phosphorus do the duty of an atom of lime or silica. If one third of the land that has been cleared of its native forest was back in woods again, and the other two-thirds cultivated in strict obedience to well known natural laws, the rural industry in the United States would yield a quarter more than it now does. It is impossible, while attempting to go over so much surface, not to waste valuable elements of crops at every turn on the farm. Land in pasture and meadow loses fertilizers far less than plowed fields, unless the latter are managed with skill in abstracting the constituents of plants from the subsoil and atmosphere, as well as from the surface soil. Wood ashes, both leached and unleached, bones and the contents of the vaults of privies should be worked up in compost heaps, rounding the bones and applying muck next to unleached ashes, so that the alkalies will neutralize the acidity of the vegetable matter. Cover rotting manure in plowing about as deep as you would a dead cat, to prevent the gases from escaping into the air. If you cover the carcass of the animal with coarse lumps of earth, it will smell badly; but pulverise these lumps fine, and the mellow earth will condense and retain the volatile atoms of the decaying cat. Take the hint and pulverize your soil deep and well, that moisture from below may rise freely, and gases and moisture from above descend without undue hindrance.

DANIEL LEE, M. D.

ART. VII.—WESTERN TOWNS.

DUBUQUE IN 1849.

THE following statistics are extracted from the MINERS' EXPRESS of December the 19th, 1849:

"Since the commencement of the present year, from eighty to one hundred brick buildings have been erected, including dwelling-houses and stores; many of them large and costly structures, and all of them such as to do credit to the proprietors, and to form ornaments to the town. Main street, where the principal business is transacted, has been greatly improved, and made to assume an appearance totally different from that presented at the commencement of the season.

"The improvements in the other streets are equally creditable to the enterprise, and indicative of the prosperity of our citizens.

"The mercantile and mechanical business of Dubuque is far more extensive than most towns of the same size, and may be summed up as follows:

"There are some twenty-two stores containing a general assortment of dry goods, clothing, groceries, &c., with stocks varying from ten to eighteen thousand dollars; One large wholesale and retail hardware store; two drug stores; two auction and commission merchants; one book store; eight fruit and provision stores; one boot and shoe store; two tinware manufactories; three bakeries; one large manufactory of confectionery; seven master builders; six plasterers; seven master bricklayers; four painters; two master stonemasons; one marble-worker; two saddle and harness manufactories; seven boot and shoe manufactories; nine tailor shops; three miliners and dress makers; three jewelers and watch makers; six cabinet and chair manufactories; five blacksmith shops; three carriage and wagon manufactories; two gun smiths; three cooper shops; five butcheries; one soap and candle factory; two livery stables.

"There are two large steam flouring mills, which, when in active operation, are able to make over two hundred barrels of flour a day. There is also a steam saw-mill, with two run of saws.

"There are three newspaper and job printing offices, from which are issued four weekly newspapers; two Whig and two Democratic; one of the latter in the German language.

"There are some eight or ten hotels and public boarding houses, besides a large number of private boarding establisements. Two of the hotels—the 'City Hotel' and 'Waple's House'—are large and elegant four story buildings, and afford to the travelling public the most ample and agreeable accommodations. 'Dickinson's Temperance House,' recently opened on Fourth street, is fitted up in excellent style by the proprietor, and offers the best of accommodations to

transient or permanent boarders. The 'Farmers' Home,' and the 'American,' 'Washington,' and 'New York' Houses are worthy of patronage.

"The learned professions are well represented in our city, both as to numbers and ability. There are eleven physicians, of various systems of practice: one dentist; seventeen lawyers; thirteen preachers of the gospel.

"The churches are, one Episcopalian, one Methodist, one Roman Catholic, one Congregational, one Christian, one Baptist, one German Congregational, and one German Methodist.

"The Roman Catholics have laid the foundation for a large cathedral on Main street, between Sixth and Seventh, which, when completed, will be one of the most magnificent buildings in the Western country. The cost is estimated at something over $100,000. It will probably be finished during the coming year. The Episcopaleans are now erecting a neat brick edifice on Locust street. It is in the Gothic style of architecture, and, when completed, will be a beautiful ornament to the city. The cost is estimated at some five thousand dollars. The Methodist society have made arrangements to erect, during the coming year, a much larger church than they now occupy, to be located on Main street, near the upper part of town. It is to be built of brick, and in a style which will do credit to the city. The Congregational church edifice has been very much enlarged during the past summer, so as to accommodate a very large auditory, and a large Lecture Room built in the rear, and the whole furnished in a most comfortable and elegant style.

"The offices of the General Government located at Dubuque, are, the office of Surveyor-General of the District composed of the States of Iowa and Wisconsin, in which some eight or ten Clerks are employed at salaries of from eight to twelve hundred dollars each, and a patronage of from fifty to seventy-five thousand dollars is annually dispensed; the Receiver and Register's office of the Northern Land District of the State of Iowa, and the office of the Judge of the United States District Court.

"The Free Masons have a Lodge and Chapter. The Odd Fellows, three subordinate Lodges, (two English, and one German,) and an encampment. The Sons of Temperance, one Division."

The population is estimated at near four thousand.

BOONVILLE, MISSOURI.

The *Boonville Democrat* of January 25th, 1850, contains the following account of the city of Boonville and its resources.

"Boonville is situated on the south bank of the Missouri river, 180 mile above its mouth, and 200 miles from the city of St. Louis. The location, for a commercial and manufacturing town, is one of the finest in the western country; being within 3 miles of the geographical centre of the State, and in the midst of a wealthy, and populous sec-

tion. Cooper county of which Boonville is the county seat, abounds in the very best cannel coal suitable for every kind of manufacture, with a large iron mine, which has never yet been worked. The land is mostly timber though with a sufficiency of prairie for the most extensive stock raisers.

"The population of the city of Boonville, in 1848 was 2,224, and since then it has been constantly and rapidly increasing. A number of new business houses have sprung up, from the time of taking the last census.

"The following is an abreviated statement of the business, and other houses: Dry Goods stores 8; Grocery stores 10; Family Groceries 4; 2 tin shops; 4 saddlery shops; 2 printing offices; 2 shoe stores; 2 carriage makers; 6 Blacksmith shops; 4 wagon shops; 2 Breweries; 3 Beer houses; 4 bakeries; 3 confectioners; 2 Hotels; 6 boarding houses; 1 Pottery; 2 tobaccoists; 4 Tailor shops; 6 Dram shops; 2 gunsmiths; 4 churches; 2 Druggists; 2 Bookstores; 2 Jewelry stores; 3 steamboat stores; 3 cooper shops; 3 cabinet shops; 12 lawyers; 8 Doctors; 3 Iron stores; 1 candle factory; 1 market house; 4 carpenter shops; 1 Iron Foundry; 2 Livery stables; 4 milliners; 2 Hatters; 8 shoemaker shops; 1 Tanyard; 1 barber shop; 1 steam Flouring mill; and 1 steam saw mill. The above may be relied upon as *strictly* correct, in every particular."

We regret that the Editor has not favored us with a statement of exports and imports, and other facts relating to the commerce and manufactures of Boonville. We desire to make our readers in other States acquainted with the agricultural, commercial and mineral resources of every part of Missouri; and our principal reliance, at present, for such information is upon the press in different parts of the State. Without such information the people of Missouri must remain ignorant of their own resources, and legislators incapable of originating and pursuing an enlightened policy.

EXPORTS OF BRUNSWICK, MISSOURI.

We are pleased to find that the enterprising editor of the Brunswicker has been able to make up a table of exports from that flourishing town for the year 1849. The table, however, would have been much more valuable had the amount of produce shipped at Brunswick by persons residing in the interior been included. We trust that in future some method will be adopted to ascertain the certain amount of shipments made at that place.—Editors.

Exports of Brunswick.—Through the instrumentality principally of Mr. McAshan, (firm of A. McMechan & Co.,) we have been enabled

to get up the shipping statistics of our town for the year 1849, the first ever offered to the public.

Articles.	1849.
Wheat, bushels	42,386
Lard, bbls	3,352
Pork, do	1,096
Bacon, casks	1,253
Tobacco, hhds	2,010
Hemp, tons	294
Tobacco, boxes	475
Flaxseed, bushels	1,546
Beeswax, lbs	50,426
Dry hides	3,177
Deer skins, bales	264
Furs, bales	221
Beans, bbls	86
Wool, sacks	57
Mustard seed, sacks	15
Hogs slaughtered this season	8,334
Beef cattle slaughtered this season	362

The amount of pork, lard, beeves, and bacon packed in the district, that ships at this place, is not considered in the above estimate. The produce shipped, shows a large increase upon the previous year's production. The growing importance of the Grand River country is striking—destined as it is, to be the best part of Missouri.

With regard to the steamboat register, the first steamboat that came up to this place was the Julia, on the 5th March. The last one down was the Amelia, on the 11th December—making the shipping season more than nine months long. The whole number of steamboat arrivals and departures was 534. Of this number, the packet Rowena, Capt. Jewett, made 44; the next best were the St. Joseph and Highland Mary, each 34. Fifty-five different boats were at this port.

GLASGOW, MISSOURI—ITS COMMERCE.

We extract from the Howard County Banner, the following statement of the commerce of Glasgow for the year 1849:

"*Exports of Glasgow.*—We have prepared with great care, the following statement of the quantities of produce shipped from this port during the past season of navigation, which, upon comparison with a similar statement made by us last year, shows a very handsome increase in the business of our thriving town.

Articles.	1848.	1849.
Tobacco, hhds,	3,194	5,230
" boxes,	4,531	4,047
Hemp, tons,	394	380

Articles.	1848.	1849.
Wheat, bushels,	36,312	21,670
Bacon, casks,	548	118
Lard, bbls,	500	259
" kegs,		320
Apples, green, bbls,	2,918	4,471
" dried, bushels,	2,250	4,089
Bale rope, coils,	744	1,250
Dry hides,	915	953

"In addition to the above, there have been shipped, of articles not enumerated in last year's statement, 350 barrels pork; 42 barrels beef; 578 bushels potatoes; 137 bushels barley; 15 sacks wool; 53 bales hay—an article never before exported from this place; 2,604 lbs. beeswax; and small quantities of various other kinds of produce.

"The number of tons of freight amounts to a little more than 6,000, which has been shipped at an average of 20 cents per hundred, for pound freights; $2 00 per hogshead, for tobacco; $3 50 per ton, for hemp; 8 cents per bushel, for wheat; and 35 cents per barrel for apples.

"The total value of exports is computed at $518,444.

"In the slaughtering business, there has been a decided increase this year. It is estimated that the number of beeves slaughtered will be about 150; and the number of hogs 5,000; of this there has been but very little shipped.

"The whole number of steamboat arrivals this season, has been 320. At the opening of navigation, there were four packets from St. Louis to Glasgow; two of these were burnt early in the season, after which there were but two boats in the regular packet trade."

From the Lexington Express.

STATISTICS OF THE CITY OF LEXINGTON, MISSOURI, FOR 1849.

Exports.—The following table exhibits a reliable statement of the Exports of this city, for the year 1849. We can vouch for its correctness, from the fact that the articles shipped were directly obtained from the duplicate bills of lading reserved by the shippers. This statement only includes the shipments made direct from the corporate limits of our city. Several of our business men, during the year, made large shipments of hemp, tobacco and bacon, from other landings in the county. We have good authority for stating, that at least twelve hundred tons of hemp were shipped from ware-houses in the county, above and below this city. For Lexington the shipments stand:

1,470	tons of Hemp, (in bales;)	8,550	pounds of Tallow;
12,375	coils of Bale Rope;	1,500	bushels of Flaxseed;
55	hogshead of Tobacco;	600	bushels of Castor and White Beans;
1,725,000	pounds of Bacon, (hams sides and shoulders;)	395	bales of Wool;
3,000	barrels of Lard;	255	bales of Feathers;

95,000 pounds of Dry Hides; 114 bales of Furs and Skins;
12,582 barrels of Superfine Flour; 500 bushels of Oats;
25,000 bushels of Wheat; 20 barrels of Alcohol;
17,000 pounds of Beeswax; 3 tons of Paper Rags;

Other articles of produce, of smaller value, were shipped, of which we have taken no account. As to the value of the above exports, we have not made an estimate; but we may safely say that the aggregate would exceed one half a million of dollars.

IMPORTS.—The investments, for the year, in goods, groceries, lumber, machinery, &c., imported into the city, amount, in the aggregate, to $410,000. This sum we think to be correct, as the amount invested by each house, was solicited and obtained.

During the months of October, November and December last, 7,300 Hogs were packed or rendered into lard.

Upwards of 2,000,000 brick were made during the year and about 30 new buildings erected mostly of brick.

SCHOOLS.—The Masonic College, under charge of the Grand Lodge of the State of Missouri; Lexington High School, for young men and boys, by Wm. Van Doren; Mr. John Wilson, school for boys; Ingleside Seminary, for young ladies; Mrs. Greene's school for misses; Miss Blackwell's school for misses; Edgeworth Seminary, by Mr. Guthrie; Miss Livingston's school for girls; Mrs. Wilson's school for girls.

The Female College will commence its first session in the course of the coming spring.

PROFESSIONS.—Attorneys at Law 18; Physicians 13; Portrait-painter and Daguerreotype Artist 1.

CHURCHES.—Methodist 1; Baptist 1; Old School Presbyterian 1; Christian 2; Cumberland Presbyterian 1; Episcopal 1.

HOTELS.—City Hotel, by J. J. Burtis; Monroe House by James Royle. Besides these, there are two or three houses of entertainment, and several excellent boarding houses. Livery Stables 2.

MONIED INSTITUTIONS.—Branch of the Bank of the State; Mutual Fire and Marine Insursnce Company, of Lexington, Mo.; Agencies for Phœnix, Home Mutual, and State Mutual Insurance Companies, of St. Louis.

BUSINESS HOUSES.—At this time we number, Dry Goods stores 16; Furnishing Stores 1; Commission warehouses and Boat Stores 4; Drug Stores 4; Book Stores 2; Tin and Stove Stores 4; Jewelry Stores 1; Furnishing Cabinet Ware Rooms 1; Lumber Yards 3. In the mechanical employments there are:—Blacksmith shops 8; Turners' shops 2; Machinist 1; Saddlers 4; Watchmaker 1; Carriage makers 2; Wagon makers 4; Carpenters' and Joiners' shops 12 or 15; Plowmaker 1; Painters and Glaziers 3; Tailors 5; Gunsmiths 2; Shoemakers 3; Stonecutters 1; Coopers 4; Barbers 2; Milliners 3; Bakeries 4; Tobacconists and cigar makers 2; Book bindery 1. There are also two printing offices, at which every variety of printing is executed.

MANUFACTORIES.—In the city and vicinity we now have 3 Steam Flouring Mills, 3 Steam Saw Mills, and one Steam Rope-walk, 2 Rope-walks propelled by horse power, and 2 factories for carding wool.

The population of the city is about 3,000. Upwards of 200 steamboat arrivals are reported. About $6,000 were expended on the streets, during the year, and something like $5,000 are appropriated for further improvements.

PUBLIC BUILDINGS.—Branch Bank; Court-House and Jail.

We hear of several new buildings to be erected the present season. If hemp bears a fair price, and the season suitable for out-door work, the improvement in the city will be very considerable and of a permanent character. With the most beautiful and richest country surrounding it, this city is destined to reach a commercial importance, which will ever place her second only to St. Louis, in the State.

COMMERCIAL STATISTICS.

COMMERCE OF ST. LOUIS.

The following table, showing the monthly prices of eight leading articles in the St. Louis market, for the year 1849, are taken from the St. Louis INTELLIGENCER:

MONTHLY PRICES OF TOBACCO.

January, all grades,	None selling.	
February,	"	
March,	$1 50*a*7 00	per 100 lbs.
April,	1 50*a*7 50	"
May,	1 20*a*8 00	"
June,	2 50*a*9 00	"
July,	2 50*a*9 50	"
August,	2 50*a*8 00	"
September,	1 50*a*7 00	"
October,	1 25*a*6 50	"
November,	1 25*a*6 50	"
December,	1 25*a*6 50	"

MONTHLY PRICES OF HEMP.

January,	$120*a*122	per ton.
February,	120*a*123	"
March,	122*a*125	"
April,	122*a*125	"
May,	120*a*123	"
June,	120*a*123	"
July,	120*a*125	"
August,	122*a*125	"
September,	123*a*125	"
October,	123*a*126	"
November,	123*a*126	"
December,	122*a*125	"

MONTHLY PRICES OF LEAD.

January,	$3 75*a*3 80
February,	3 80*a*3 85
March,	4 00*a*4 10
April,	3 80*a*3 85
May,	3 95*a*4 00
June,	4 00*a*4 05
July,	4 05*a*4 10
August,	4 20*a*4 25
September,	4 20*a*3 25
October,	4 05*a*4 10
November,	3 90*a*3 92
December,	3 92½*a*3 95

MONTHLY PRICES OF FLOUR.

January,	4 20*a*4 25 per barrel.
February,	4 23*a*4 50 "
March,	4 20*a*4 25 "
April,	3 70*a*3 75 "
May,	3 75*a*3 80 "
June,	3 80*a*3 87 1-2 "
July,	4 10*a*4 25 "
August,	4 25*a*4 30 "
September,	3 30*a*4 45 "
October,	4 50*a*4 60 "
November,	4 50*a*4 75 "
December,	4 75*a*5 12 1-2 "

MONTHLY PRICES OF WHEAT.

January,	80*a*85c	July,	85*a*87 1-2c
February,	80*a*85c	August,	85*a*87 1-2c
March,	75*a*80c	September,	85*a*90c
April,	75*a*78c	October,	90*a*93c
May,	80*a*83c	November,	93*a*95c
June,	83*a*85c	December,	98*a*115c

MONTHLY PRICES OF CORN.

January,	30*a*32c	July,	36*a*38c
February,	30*a*32c	August,	36*a*39c
March,	25*a*27c	Septemher,	35*a*38c
April,	23*a*24c	October,	36*a*39c
May,	26*a*28c	November,	35*a*38c
June,	36*a*38c	December,	38*a*40c

MONTHLY PRICES OF BARLEY.

January,	50*a*55c	July,	55*a*60c
February,	60*a*62c	August,	73*a*75c
March,	75*a*80c	September,	73*a*76c
April,	75*a*80c	October,	105*a*110c
May,	70*a*75c	November,	73*a*76c
June,	60*a*65c	December,	73*a*76c

MONTHLY PRICES OF WHISKY.

January,	18*a*18 1-2c	July,	17*a*17 1-2c
February,	17*a*17 1-2c	August,	20*a*20 1-2c
March,	17 1-2*a*18c	September,	22*a*22 1-4c
April,	16*a*16 1-4c	October,	26*a*26 1-2c
May,	15 3-4*a*16c	November,	21*a*22c
June,	16 1-4*a*16 1-2c	December,	25*a*28c

Inspection of Whisky at St. Louis for each Month of the Year 1849.

	OHIO WHISKEY.		ILL. WHISKEY.		MO. WHISKEY.		IOWA WHISKEY.	
	Bbls.	Galls.	Bbls.	Galls.	Bbls.	Galls.	Bbls.	Galls.
January,	226	6,775	1,575	63,780	395	16,025	——	——
February,	——	——	1,632	65,735	198	7,926	——	——
March,	325	14,875	2,780	111,231	1,601	64,120	783	31,264
April,	259	10,160	3,386	135,585	1,015	37,788	214	8,336
May,	47	1,883	2,568	102,767	967	38,795	94	3,699
June,	——	——	3,720	148,742	1,265	50,671	167	6,670
July,	158	6,302	1,962	78,465	759	30,376	148	5,930
August,	254	10,076	2,460	98,416	1,275	50,007	226	9,048
September,	196	7,840	2,635	107,717	1,182	47,289	303	12,126
October,	407	16,265	2,507	190,273	1,262	50,458	206	8,235
November,	470	18,954	2,679	104,442	1,294	50,429	538	14,339
December,	25	1,006	2,090	83,600	1,083	43,250	453	18,126
Totals,	2,368	105,136	29,994	1,200,703	12,296	487,234	3,132	117,773

CUSTOM HOUSE STATISTICS.

Amount of Goods, Wares, and Merchandize imported and entered for immediate consumption; also, those withdrawn from Warehouse, upon which duties were paid at the Port of St. Louis, during the year 1849.

FROM BREMEN.

Articles.	*Value.*	*Am't of duty.*
23 pkgs. hardware	$2,344 00	$667 00
14 casks do	1,083 00	326 10
288 pkgs dry goods	6,476 00	1,506 15
139 do wine, &c	2,492 00	530 00
125 flag stones and 5 bales batting	508 00	89 50
7 kegs nails	78 00	43 40
5 pkgs groceries	105 75	4 70
25 do toys	2,636 00	792 80
Total from Bremen	$16,422 75	$3,969 65

FROM HAMBURG AND ANTWERP.

36 pkgs mdz	771 00	164 60
50 boxes and 10 bbls wine	365 00	226 00
20 bbls nails	170 00	51 00
Total from Hamburg and Antwerp	1,506 00	441 60

FROM HAVANA.

2,365 boxes sugar	value	43,494 00	12,718 20

FROM FRANCE.

120 pkgs mdz and 93 bbls and casks liquors	1,236 20	606 80
121 casks and pipes and 881 pkgs wine	8,012 00	5,564 02
50 pkgs mdz	7,987 00	2,328 75
635 pieces burr stone	395 00	39 50
2 cases leather	348 00	69 60
150 pkgs groceries	708 00	280 00
157 do brandy	6,548 62	6,548 62
24 do sundries	1,624 00	468 15
62 do champaigne and brandy	880 23	569 03
Total from France	28,430 09	16,474 47

FROM ENGLAND

62 casks 933 pkgs hardware	83,023 00	24,359 70
8 pkgs cutlery	3,510 00	1,053 70
453 crates 958 pkgs earthenware	41,568 00	12,957 90
425 bundles sheet iron 503 boxes tin plate 124 crates earthenware	8,641 00	2,021 85
48 casks chains &c	3,835 00	1,050 50
135 pkgs hoop iron	201 00	60 30
29 do saddlery	2,023 00	537 85
111 tons pig iron	1,487 00	446 10
1 cask razors	1,237 00	271 10
1 case shot belts	356 00	106 80
25 cases drugs and medicines	946 00	142 00
50 casks soda ash	1,795 00	179 50
3,233 boxes tin plate &c	26,513 00	3,631 20
2,136 bundles iron &c	2,059 00	607 70
23 cases dry goods	4,476 00	1,001 30
1,524 pkgs copper &c	4,765 00	1,090 05
Total from England	204,435 00	49,507 55
" " Bremen	16,422 75	3,969 65
" " Hamburg and Antwerp	1,506 00	441 60
" " Havana	42,394 00	12,718 20
" " France	28,439 05	16,474 47
Total value and duties for 1849	293,196 80	83,111 47
" " " " 1848	130,844 90	40,964 87
Increase over last year	**162,351 90**	**42,146 60**

Gross amount of Receipts of Customs at the Custom House, Port of St. Louis, from September, 1842, to December 31st 1847:

	Duties on Imports.	*Hospital Money.*	*Total.*
1842, Sept., Oct., Nov., Dec.,	00 00	111 76	111 76
1843, during the year	4,084 28	1,470 43	5,553 71
1844, " "	14,635 46	1,545 65	16,181 11
1845, " "	14,255 58	2,056 61	16,312 19
1846, " "	27,320 02	2,455 47	29,776 49
1847, " "	71,464 51	2,374 19	73,838 70
1848, " "	40,964 87	2,627 28	43,532 15
1849, " "	83,111 47	2,469 08	85,580 55

MISCELLANEOUS STATISTICS.

STATISTICS OF THE PUBLIC LANDS.

The following tables have been made up with great care from the report of the Commissioner of the General Land Office. And we take this occasion to say that the report from that department, by Commissioner YOUNG, published during last year, is in our opinion, among the most complete and satisfactory public documents that we have ever examined.

	Areas of the States, Square miles.	Acres.	Surveyed to January 1. 1849.	Unsurveyed up to January 1. 1849.	Offered for sale up to January 1, 1849.
Ohio,	39,964	25,576,960	16,770,984		16,770,984
Indiana,	33,809	21,637,760	21,487,760		21,359,707·45
Illinois,	35,459	25,459,200	35,429,234·59	29,965·45	35,397,921·22
Missouri,	67,380	43,123,200	41,440,556·28	1,682,643·72	39,435,609·30
Alabama,	50,722	32,462,080	31,993,813·46	33,677·05	28,224,757·05
Mississippi,	47,147	30,174,080	30,174,080		30,174,080
Louisiana,	46,431	29,715,840	18,843,212·84	10,872,627·16	17,322,962·94
Michigan,	56,243	35,995,520	27,858,503·06	8,137,016·94	27,455,761·70
Arkansas,	52,198	33,406,720	38,842,661·87	564,068·13	32,258,257·70
Wisconsin,	53,924	34,511,360	14,423,055·13	20,088,304·87	13,427,189·27
Iowa,	50,914	32,584,960	14,571,131·20	18,013,238·80	12,887,298·55
Florida,	59,268	37,931,520	18,540,765·64	19,390,754·35	15,047,425·29
Total in 12 States,	613,405	392,579,200	304,376,348·03	78,812,286·48	289,961,954·47

	Quantity sold up to January 1 1849.	Amount rece'd for lands sold up to Jan. 1 1849.	Average per acre	Common schools, 16 section.	Grants to Universities, Colleges and seminaries
	Acres.	Dollars.	Dollars.	Acres.	Acres.
Ohio,	12,490,215·49	20,607,249·30	1,66	675,094·03	24,320
Indiana,	15,477,628·51	21,316,099·87	1,38	631,863·71	46,080
Illinois,	15,040,145·11	19,554,409·33	1,30	978,448·89	46,080
Missouri,	9,726,360·86	12,721,141·64	1,31	1,108,073·11	46,080
Alabama,	10,882,253·47	16,888,047·38	1,56	897,166·10	46,080
Mississippi,	13,462,221·67	16,402,691·62	1,36	846,747·51	46,080
Louisiana,	3,224,025·80	4,086,394·26	1,27	520,384·80	46,080
Michigan,	9,071,223·28	11,399,519·16	1,26	1,001,170·93	46,080

Arkansas,	2,995,237·15	3,769,694·90	1,26	895,131·97	46,080
Wisconsin,	4,567,094·76	5,792,234·88	1,27	960,984·33	46,080
Iowa,	2,361,022 24	2,954,052·29	1,25	901,831·00	46,080
Florida,	942,248·12	1,217,542·69	1,29	1,005,960·00	92,160
	100,209,656·46	$136,272,079·32	1,35	10,422,856·38	576,000

	Quantity granted for internal improvements.	To individuals and companies.	To seats of government & public buildings.	Military services in our late war.	Military services in the Mexican war.
	Acres.	Acres.	Acres.	Acres.	Acres.
Ohio,	1,181,135·47	32,141·24		63,842·64*	44,429
Indiana,	1,609,861·61	843·44	2,560	69,776·61	189,540
Illinois,	500,000	954·64	2,560	2,850,880·30	683,700
Missouri,	500,000		2,560	481,773·20	207,200
Alabama.	500,000	1,981·53	1,620	1,760	19,160
Mississippi,	500,000	15,965·31	1,280	3,22·25	16,840
Louisiana,	500,000	8,412·98		160	76,720
Michigan,	500,000	4,080	12,895·72†	4.596·97	29,920
Arkansas,	500,000	139,366·25	8,280	1,078,845·31	62,400
Wisconsin,	858,400	5,705·82	1,600‡	79,858·17	736,080
Iowa,	825,078·22	18,226·86	3,840	19,115·06	462,360
Florida,	500,000	1,743,661·61	1,120§		80
Total,	8,474,475·30	1,971,339·68	38,315·72	4,650,930·51	2,533,429‖

Table showing the quantity of land sold in each year by the General Government, in the twelve States containing government land, from the year 1787 to 1849

Years.	Acres.	Years.	Acres.	Years.	Acres.
1787	76,525·14	1814c	1,079,514·29	1831g	2,804,744·92
1796	42,057·62	1815	1,147,350·53	1832	2,411,852·10
1799	640	1816	1,372,562·45	1833	3,824,655·60
1800	70,947·81	1817	1,158,198·44	1834	4,561,521·47
1801	486,78 /·53	1818d	1,505,611·47	1835	12,230,803
1802	254,770·45	1819	991,297·92	1836	19,113,986·73
1803	167,551·90	1820	503,881·64	1837	5,385,775·84
1804	479,816·02	1821e	822,181·72	1838h	3,119,140·95
1805	434,112·37	1822	763,810·94	1839	4,990,417·55
1806	269,742·46	1823	638,748·84	1840	2,190,834·30
1807a	180,061·43	1824	723,038·42	1841	1,115,096·28
1808	184,629·52	1825f	871,619·19	1842	1,133,068·44
1809b	247,507·30	1826	839,262·80	1843	1,651,699·37
1810	249,215·87	1827	905,937·39	1844	4,721,006·43
1811	515,643·69	1828	946,650·68	1845	1,802,428·95
1812	318,339·59	1829	1,236,444·65	1846	2,186,310·63
1813	483,257·16	1830	1,880,619·23	1847	2,498,157·34
				1848	1,887,553

*1,301,326·32 acres of land were located in Ohio under claims growing out of the revolutionary war. †This item includes 10,000 acres selected in the Detroit district for public buildings at Detroit—leaving of the grant 3,200 acres to Michigan for seat of government. ‡Of the grant of 6,400 acres to Wisconsin for seat of government 4,800 are yet unselected. §Of the grant of 6,200 acres to Florida, for seat of government and public buildings, 5,120 acres remain unselected. ‖According to the report of the Commissioner of the General Land Office 2,496,560 acres were located by land warrants in the first three quarters of 1849.

a All the land sold anterior to this date were situate in Ohio. The first public

sales in Indiana and Mississippi were in 1807.
bThe first public sales in Alabama were in 1809.
cThe first sales in Illinois were in 1814.
dThe first sales in Missouri; Louisiana and Michigan were in 1818.
eThe first sales in Arkansas were in 1821.
fThe first sales in Florida were in 1825.
gThe first sales in Wisconsin were in 1831.
hThe first sales in Iowa were in 1838.

The following Tables show the quantity of lands disposed of for cash, Mexican war warrants, and other purposes in 1848, and the first three quarters of 1849.

Quantity of land disposed of in 1848.

Sales for cash,	1,887,533	acres.
Mexican war warrants,	2,288,960	"
States selections, act of 1841,	378,058	"
Improvement of rivers, &c,	321,188	"
Choctaw certificates,	57,249	"
Total,	4,933,009	acres.

Quantity of land disposed of in the first three quarters in 1849.

Sales for cash,	887,206	acres.
Located by land warrants,	2,496,560	"
Total,	3,383,766	acres.

	Saline reservations selected.	Private claims confirmed.	Indian reservations.	Area of swamp lands reported by Surveyor General.	Total offered and unsold and unappropriated Jan. 1 1849.
	Acres.	Acres.	Acres.	Acres.	Acres.
Ohio,	24,216·86	26,459·80†	16,330·73	303.329	807,556·15
Indiana,	24,235·58	179,880 53	126,220·71	981,682	3,271,730 59
Illinois,	120,907·66	188,901·61	48,989·69	1,833,412·94	14,998,937·55
Missouri,	45,625·60	1,362,455·10‡	22,587·61	1,517,287	29,437,942·34
Alabama,	13,040*	213,386·65	2,542,378·82	436,450	17,450,560·03
Mississippi,		688,082·25	277,612·04	2,239,987	14,326,430·95
Louisiana,		2,092,903·91		2,266,075	23,462,018·86
Michigan,	40,522 65	126,711·25	109,300·83	4,544,189	25,057,704·32
Arkansas,	45,032 60	118,451·12		4,907,673	27,464,603·49
Wisconsin	43,080*	36,880·99	137,894·27	1,259·269	27,431,029·76
Iowa,	43,080		119,133 34	33,813	28,368,436·89
Florida,		188,386·77	227·49	562,170	33,837,392·79
Total,	401,661·04	5,222,500·98	3,400,725.53	20,785,336·94	245,913,343·79

*These lands remain unselected.
†8,305,976 acres were reserved in Ohio for companies, individuals and corporations.
‡181,115,43 acres, New Madrid and new locations in Missouri.

COMPARATIVE COST OF WIRE AND PLANK FENCES.

THE folllowing statement of the comparative cost of wire and plank fences has been furnished by a highly intelligent and practical farmer of St. Charles county, Missouri, whose estimates, as we understand, are based upon the cost incurred by himself in both modes of fencing.

EDITORS.

Comparative Expense, at and near St. Charles, of strong rough plank, and strong rough wire fencing—both proof against cattle, horses, hogs, pigs, and sheep:

A plank fence round a forty acre lot, five feet high—440 yards to a side—a mile in all—posts six feet apart, poles at the bottom, on the ground, a twelve inch plank for base, four six inch planks, on the sides, capped with a six inch plank, and six inch battens on each poost—not painted.

880 cedar posts at 25 cents		$220 00
440 bottom or ground poles 4 cts		17 60
440 bottom plank	5280 feet	
1760 side plank	10560 do	
445 plank for caps	2640 do	
880 battens	2200 do	
Nett plank in the fence	20680 do	
Say at 1 1-2 cts. per foot, is		310 20
450 lbs nails, 60 to the pound, at 5 1-2 cts		24 75
Cost of materials		$572 55
Seting the 880 posts and placing the 440 poles properly, say		$12 00
Carpenter's work, say 6 cts per pannel of 12 ft		26 40
Extras say		9 05
(Say ab't $1 40 per pan'l of 12 ft)		620 00

A wire fence round the same lot, five feet high, nine strands of No. 9 wire—the posts to be twelve feet apart, with a stout pole fitted at the bottom between the posts, the wires painted three coats, white lead.

440 cedar posts at 25 cts	110 00
8289lbs No. 9 wire at 8 cts: St. Louis	231 12
440 ground poles or rails at 4 cts	17 60
Annealing the wire say 1-2c per lb. say	15 00
Paint, oil and brushes say	2 75
Boring and setting 440 posts	8 00
Staples (of wire 50 to the lb)	1 75
Stretching and painting the wires	15 00
Fitting down the ground poles	4 00
Extras, say	14 78
The whole cost at most	$420 00
Near nbout 96 cts per pannel of 12 feet.	

A strand of No. 9 wire 1800 feet long will weigh just 100 pounds, and cost $8 00.

A strand 1760 pards, or a mile long, (sufficient to enclose just 40 acres in a square,) will weigh 321 pounds, and cost at St. Louis $25 68-100.

So nine strands will weigh 2889 pounds, and cost $231 12-100.

A string of 6 inch plank a mile long will contain 2640 feet.

A string of 12 inch plank, same length, will contain 5280 feet.

The foregoing estimates are not PRECISELY correct, of course; but will be found probably to approximate very nearly to the truth—near enough, at any rate, to show on which side economy and utility may be found.

NOTE.—If the plank can be had on the ground at $1 25c per hundred, it will reduce the cost to $567 30-100, or about 128 cts. a pannel. If 8 strands of wire will be sufficient, then the wire fence will not cost over ninety cents per pannel.

We take this occasion to reply to an inquiry, made by one of our patrons, in respect to the size of wire to be preferred for fencing. The only information that we have met with on this point, is contained in the CULTIVATOR, for the present month. It is there stated, on the authority of Mr. Ellet, the builder of wire bridges, that No. 10 wire will sustain a weight of 1500 pounds; and the writer supposes that an animal must exert a force of about 4500 pounds to break a fence of No. 10 wire, as it would meet with the resistance of three strands. Though this might not always be the case, yet we should conclude that a fence made of wire, each strand of which was capable of sustaining a force equal to 1500 pounds, would be sufficient to turn any kind of stock. Experience, however, is the best guide in such matters, and we should be pleased if some one who has made the experiment of constructing wire fences, would give us their opinion upon this point.—EDITORS.

From the Washington Union.

THIRTY-FIRST CONGRESS.

As a matter of convenient reference, as well as for general information, we give below the names of the Senators and members of the House of Representatives, constituting the Thirty-first Congress, with their respective party designations. For the alphabetical list of the members of the House of Representatives, we are indebted to our worthy friend, Major B. B. French, of this city, for whose accuracy in these matters the public have an ample guarranty in the fact that he has for many years been connected with the House in the capacity of principal clerk.

SENATE.

Alabama.	*Term expires.*	*Michigan.*	*Term expires.*
Benj. Fitzpatrick,	1853	Lewis Cass,	1851
William R. King,	1855	Alpheus Felch,	1853
Arkansas.		*Missouri.*	
Wm. K. Sebastian,	1853	Thomas H. Benton,	1851
Solon Borland,	1855	D. R. Atchinson,	1855
Connecticut.		*New Hampshire.*	
*Roger S. Baldwin,	1851	†J. P. Hale,	1853
*Truman Smith,	1855	Moses Norris, jr.,	1855
Delaware.		*New York.*	
*John Wales,	1851	D. S. Dickinson,	1851
*Presly Spruance,	1853	Wm. H. Seward,	1855

	Term expires.		Term expires.
Florida.		*New Jersey.*	
David L. Yulee,	1851	*Wm. L. Dayton,	1851
*Jackson Morton,	1855	*Jacob W. Miller,	1853
Georgia.		*North Carolina.*	
*John M. Berrien,	1853	*W. P. Mangum,	1853
*Wm. C. Dawson,	1853	*George E. Badger,	1855
Indiana.		*Ohio.*	
Jesse D. Bright,	1851	*Thomas Corwin,	1851
James Whitcomb,	1855	†S. P. Chase,	1855
Illinois.		*Pennsylvania.*	
S. A. Douglas,	1853	Daniel Sturgeon,	1851
James Shields,	1855	*James Cooper,	1855
Iowa.		*Rhode Island.*	
Geo. W. Jones,	1853	*Albert C. Greene,	1851
A. C. Dodge,	1855	*John H. Clarke,	1853
Kentucky.		*South Carolina.*	
*J. R. Underwood,	1853	John C. Calhoun,	1853
*Henry Clay,	1855	A. P. Butler,	1855
Louisiana.		*Tennessee.*	
S. U. Downs,	1853	H. L. Turney,	1851
Pierre Soule,	1855	*John Bell,	1853
Maine.		*Texas.*	
Hanibal Hamlin,	1851	T. J. Rusk,	1851
J. W. Bradbury,	1853	Sam. Houston,	1853
Massachusetts.		*Vermont.*	
*Daniel Webster,	1851	*S. S. Phelps,	1851
*John Davis,	1853	*William Upham,	1853
Maryland.		*Virginia.*	
Benj. C. Howard,	1851	J. M. Mason,	1851
*James A. Pearce,	1855	R. M. T. Hunter,	1853
Mississippi.		*Wisconsin.*	
Jefferson Davis,	1851	Henry Dodge,	1851
Henry S. Foote,	1863	Isaac P. Walker,	1855

Total 60.—Democrats 34—Whigs 24—Free soil 2.

HOUSE.

Alphabetical List of Members of the House of Representatives of the United States.

Whigs marked thus * Free soil whigs marked ‡ Free soil democrats marked †

N Albertson, Ia
*H P Alexander, N Y
‡C Allen, Mass
*A J Alston, Ala
*J M Anderson, Tenn
*G R Andrews, N Y
Wm S Ashe, N C
*G Ashmun, Mass
T H Averett, Va
T H Bayly, Va
‡G W Julian, Ia
D S Kauffman, Texas
*John B Kerr, Md
*D P King, Mass
*G G King, R I
*J A King, N Y
†P King, N Y
*J G King, N J
*T B King, Ga
Emile La Serre, La

*E D Baker, Ill
W V N Bay, Mo
J M H Beale, Va
Wm H Bissell, Ill
K S Bingham, Mich
T S Bocock, Va
*D A Bocker, N Y
W Booth, Ct
*R J Bowie, Md
L Boyd, Ky
F W Bowdon, Ala
J B Bowlin, Mo
*D Breck, Ky
*G Briggs, N Y
A G Brown, Miss
W J Brown, Ia
*J Brooks, N Y
A W Buel, Mich
A Burt, S C
*H Burnett, N Y
*L Burrows, N Y
*C Butler, Pa
*T B Butler, Ct
*E C Cabell, Fa
G A Caldwell, Ky
*J P Caldwell, N C
‡L Campbell, O
J Cable, O
D K Carter, O
*J Casey, Pa
*S Calvin, Pa
*J R Chandler, Pa
C F Cleveland, Ct
*C E Clark, N Y
*T. L. Clingman, N. C.
H. Cobb, Ga.
W. R. W. Cobb, Ala.
*H. S. Conger, N. Y.
W. F. Colcock, S. C.
*C. M. Conrad, La.
*M. B. Corwin, O.
*O. Cole. Wis.
J. Corwell, r. s. w., O.,
J. R. J. Daniel, N. C.
*E. Deberry, N. C.
M. M. Dimmick, Pa.
*J. C. Dickey, Pa.
D. T. Disney, O.
*J. F. Dixon, R.I.
J. D. Doty, Wis.
*W. Duter, N. Y.
*J. H. Duncan Mass.
S Leffler, Iowa
*L C Levin, N A Pa
N S Littlefield, Me.
J A McClerand, Ill
J McDowell, Va
J E McDonald, Ia
*E W McGoughey, Ia
*T McKessock, N Y
J X McLanahan, Pa
R M McLane, Md
*F E McLean, Ky
F M'Mullin, Va
J McQueen, S C
W McWillie, Miss
*H Mann, Mass
J Mann, Pa
*H Marshall, Ky
J C Mason, Ky
*O B Mattison, N Y
*J S Meacham, Vt
R K Meade, Va
J K Miller, O
J S Milson, Va
*H D Moore, Pa
*C S Morehead, Ky
J D Morris, O
I E Morse, La
*J Morton, Va
*W Nelson, N Y
*H Nee, Pa
*W A Newell, N J
*A J Ogle, Pa
E B Olds, O
J J Orr, S C
*J. Otis, Me.
*D. Outlaw, N. C.
*A. F. Owen, Ga.
R. Parker, Va.
C. H. Peaslee, N. H.
L. B. Peck, Vt.
J. S. Phelps, Mo.
*J. P. Phœnix, N. Y.
E. D. Potter, O.
P. Powel, Va.
*H Putnam, N. Y.
*C. W. Pitman, Pa.
*D. Runsey, N. Y.
*R. R. Reed, Pa.
*G. O. Reynolds, N. Y.
Wm. A. Richardson, Ill.
*Elijah Risley, N. Y.
J. Robbins, Jr., Pa.

C. L. Dunham, Ia.
C. Durkee, r. s. d. Wis.
H. A. Edmundson, Va.
*A. Evans, Md.
*Nathan Evans, O.
Andrew Ewing, Te.
W. S. Featherston, Miss.
Graham N. Fitch, Ia.
*Orrin Fowler, Mass.
*John Freedley, Pa.
Thos. J. D. Fuller, Me.
*M. P. Gentry, Te.
Elbridge Gerry, Me.
Alfred Gilmore, Pa.
‡J. Giddings, O.
*Rufus K. Goodenow, Me.
*Daniel Gott, N. Y.
*H. D. Gould, N. Y.
Willis A. Gorman, Ia.
Jas. S. Green, Mo.
*Joseph Grinnell, Mass.
*Ransom Halloway, N. Y.
*Moses Hampton, Pa.
Edward Hammond, Md.
Wm. T Hamilton, Md.
H. A. Haralson, Ga.
T. C. Hackett, Ga.
J. A Harmanson, La.
S. W. Harris, Ala.
Isham G. Harris, Te.
T. L. Harris, Ill.
Andrew J. Harlan, Ia.
Willard P. Hall, Mo.
*Andrew R. Hay, N. J.
*T. S Haymond, Va.
*Wm. Hebbard, Vt.
*Wm. Henry, Vt.
Harry Hibbard, N. H.
*H. W. Hilliard, Ala.
Moses Hoagland, O.
Isaac E. Holmes, S. C.
*J. W. Houston, Del.
A. R. Holliday, Va.
‡J. Howe, Pa.
V. E. Howard, Texas.
David Hubbard, Ala.
‡W. Hunter, O.
Samuel W. Inge, Ala.
*W. T. Jackson, N. Y.
*James L. Johnson, Ky.
Andrew Johnson, Te.
R. W. Johnson, Ark.
George W. Jones, Te.
J. L. Robinson, Ia.
‡J. M. Root, O.
*R. L. Rose, N. Y.
T. Ross, Pa.
*Julius Rockwell, Mass.
*W. A. Sackett, N. Y.
John H. Savage, Te.
Cullen Sawtelle, Me.
*Robert C. Shenck, O.
*A. Schermerhorn, N. Y.
*J. L. Schoolcraft, N. Y.
James A. Seddon, Va.
*E. G. Spalding, N. Y.
*W. Sprague, Mich.
F. P Stanton, Te.
*R. H. Stanton, Ky.
*A. H. Shepherd, N. C.
*Edward Stanly, N. C.
*A. H. Stephens, Ga.
*Thaddeus Stepheos, Pa.
Charles Stetson, Me.
William Strong Pa.
*P. H. Silvester, N. Y.
Charles Sweetzer, O.
*John L. Taylor, O.
James H. Thomas, Te.
James Thompson, Pa.
Jacob Thompson, Miss.
*John B. Thompson, Ky.
W. Thompson, Iowa.
*J. S. Thurman, N. Y.
*Robert Toombs, Ga.
†A. Tuck, N. H.
*W. Underhill, N. Y.
*J. Van Dyke, N. J.
A. W. Venable, N. C.
*Samuel F. Vinton, O.
Hiram Walden N. Y.
Loren P. Waldo, Ct.
Daniel Wallace, S. C.
*A. G. Watkins, Te.
M. J. Welborn, Ga.
J. Wentworth, Ill.
*Hugh White, N. Y.
W. A. Whittlesey, O.
Isaac Wildrick, N. J.
*C. H. Williams, Te.
†David Wilmot, Pa.
*James Wilson, N. H.
*Robert C. Winthrop, Mass.
Amos E. Wood, O.
J. A. Woodward, S. C.
T. R. Young Ill.

MENTAL CULTURE AND BUSINESS LIFE.

The great secret of happiness in the life of the business man consists in associating with his pursuits a habit of improving his mental and moral faculties; that, while his labors secure the appliances of physical sustenance and comfort, he may grow rich in knowledge, and enjoy the sympathies of his fellow men.

How often do we meet with those, who, by a life of energy, perseverence, and toil, have amassed a splendid fortune—that goal, perhaps, of their earliest ambition—yet, who are rendered incapable of enjoying it—a curse to themselves and society; because the highest and holiest faculties of their minds have been crushed and stultified by wanton self-neglect in earlier life! Doubtless in their youthful aspirations, whilst first entering upon their career, they dreamed that, when crowned with success, and surrounded with wealth, affluence, and influence—when a luxurious and splendid home should own them as masters, they would then cultivate a taste for the arts, sciences, literature, and moral excellence, and thus prepare themselves, to associate with the intelligent, moral and refined of society. But alas! when too late, they have awoke to the astounding discovery that the fountains of the human soul, whence issue those streams of human pleasure and happiness, have become an *arid* desert from long neglect—and that for them there are no moral dews, descending from Heaven, to moisten the heart, or refresh the mind.

He who would not prove recreant to his nature, must comprehend and observe the three great cardinal features of humanity, neither of which can be neglected or violated without a curse resting upon him who is thus guilty. We mean the *physical*, *mental*, *and*, *moral*—that mysterious *triune* nature in man, which constitutes him lord of the *earth*, and when properly blended and cultivated, makes him but a little lower than the *angels*.

But if his physical nature alone be nurtured and cultivated at the expense of both the mental and moral, he becomes a *mere animal*, groveling and brutish in his appetites and propensites; and, if the mental and physical natures are only cultivated and developed, to the exclusion of the moral, the man becomes an animal, with an intellect, sharpened and acute, ready and capable, at all times, of executing the suggestions of his animal instincts, desires, and appetites; and where his moral nature has been utterly depraved by this neglect, he becomes a fiend in human shape—prostituting the fairest flowers of human loveliness and virtue to his base *selfishness* and *brutal lusts*—violating and polluting the sanctity of the fireside hearth—carrying wo, desolation, and death to the very bosom of society—a living *mockery* of his *species*. And, on the other hand, where the moral nature alone, has been cultivated, nurtured, and developed, to the neglect of the physical and mental natures, the man becomes a hardened, unfeeling, and unreasoning bigot—devoid of all sympathy with his kind. Guided by a fatal fanaticism, he becomes in time the *man of one idea*,

and finally ends a *monomaniac*, and thus passes from "*life's fitful dream*" to a *mad house*—one of those *mournful living* tombs, commemorative of the *wreck* of human reason. This is no fancy sketch; but a sad truth, apparent to the common observation of all, when only a part of the faculties given us by the Great Author of our being, have been nurtured and developed, and the others neglected. But there are many and other instances constantly occurring where a neglect to properly, and mutually blend physical, mental and moral culture —has been the cause of keeping in ignorance and obscurity, some of nature's noblest and brightest *minds*. Indeed, these three great constituents of the mind are mutually dependent one upon the other; and no individual can arrive at legitimate manhood without their joint culture. It matters not what occupation he may follow, he cannot be truly great, and excel even in that, without the equal development of this *triune* principle of his nature.

Of all classes of men, he who is engaged in industrial pursuits, were he true to himself, is in the best condition to develop these three great constituents of his mind.

Obliged to associate physical exercise with that daily avocation, which yields the means of sustenance and comfort to himself and family, it is only necessary that he should allot a portion of time, from each day or week, to books, thought, science and literature, and he will find that his mental and moral powers, will assimilate in tone, harmony and power, to his physical development. Thrown, too, in daily contact with his fellow-men upon the footing of equality, arising from citizenship and similarity in occupation and pursuits, his sympathies naturally comprehend within their grasp the struggling, toiling millions around him, who, like himself, are struggling for the means to supply the common wants of life, and such a position in society as will be most conducive to their happiness. It is this alone that constitutes the true link of sympathy which binds man to man in *unity* and *brotherhood*, and enables him to comprehend practically that great and beautiful truth, in the the christian philosophy, of "*doing unto others as you would that they should do unto you, and loving your neighbor as yourself.*" And let no man suppose that the time thus devoted to mental and moral culture, would be detrimental to him in a business point of view. On the contrary, it cannot fail to be of infinite advantage. It would impart to his mind that tone of vigor, firmness, and confidence, blended with sympathy and kindness, which the ignorant can never know, nor feel. His mental vision as a business man would be enlarged—each avenue of industrial pursuit would open to his view, and in this favored country, such a mind could never know nor feel dispair. The true objects, and ends of life, would ever be present to his waking senses—and should fortune bless and prosper his efforts, to the accumulation of wealth, he would know how to use it, not only for his own good, but for that of others also. To such a man, wealth would not prove a *mockery*, *burthen* and a *curse*, but a source of pleasure and happiness in the consciousness, that he possessed the means, of imparting good unto others. To him old age would bring no terrors, fears, or remorse,—no weeping widows or orphans would rise from their *graves*, to accuse him of grinding, wrong, or cold and callous hearted neglect. Having kept pure and intact a green spot in his

heart from youth to old age, amid all the tumult, toil and distraction of his business life, by proper mental and moral culture; his heart was ever kept open to the voice of sympathy and kindness, and he would rather have submitted to a *wrong* than to have *inflicted* it; and now in his decline, surrounded by wealth and comfort, that green spot in his *world-tried heart* blooms with renewed freshness,—a capital, yielding him interest more precious than all his wealth besides.

But he who would attain to this enviable position must learn to school his mind to habits of thought and calm reflection, from the commencement to the end of his career of active life; so that when middle age arrives it shall find him with fixed and established habits. For it has been truly said that habit is second nature, and when we have broken a good habit we find it most difficult to re-establish it, and more difficult still is it to break a bad habit when once thoroughly established. Youthful habits are stronger than those formed in middle age, and those formed in middle age still stronger than those formed in old age; indeed, it is hardly possible to form a permanent habit in the decline of life, as the youth and middle aged man is so must the old man continue to be, for good or for evil to the *grave*. Hence, the imperious necessity of our forming those habits in early life which are the best calculated to develop all of the powers and faculties of the mind and the finest feelings of the heart. For upon these depend our future world of happiness or woe—of sunshine or gloom.

It is not sufficient that we resolve in our own mind, that at some future day, more propitious than the present, when time and circumstances will favor, we will cultivate a habit of study, and a taste, and a desire for the acquisition of knowledge. We must commence immediately if we would cultivate and fix the habit so as to remain with us in after life. "Now is the accepted time;" procrastination is moral death. That man who waits supinely, with a vague hope that at some future time circumstances will permit him to do what God and his own nature requires of him now, will find that those circumstances will never occur, and will live to regret—deeply regret, that he did not, even in the very *vortex* of business, while yet young, commence the habit of self-culture and improvement.

Indeed, much of the most valuable practical wisdom of life is derived from contact with our fellow men in the great thoroughfares of business. Where mind grapples with mind, and heart responds to heart, in defiance, hate, fear, friendship—here character is developed in every variety of shade and coloring; here each and all are struggling for the attainment of their own individual idea; here we meet young and ardent hope, vaulting ambition, undying energy and perseverence, low cunning, pride, success, generosity, poverty and despair, mingled in the same *groupe*, all of which leave their impress on each mind for good or for evil, according to its culture and capacity to receive them. To him who has cultivated a habit of thought and of reasoning, and an appreciation of moral beauty, harmony, and excellence, the lesson is fraught with wisdom, goodness, and improvement; but to him who has trampled upon the gifts that God gave him, and who has desecrated that sacred boon to man—*the human mind*—there is no true

wisdom imparted—no goodness left behind—darkness and confusion still *reign* there *supreme*.

But, although much may be learned by contact and observation, it is not all that is required. There must be some little time set apart for calm reflection upon what has been seen. Conclusions must be drawn; and in this effort, the mind needs the aid of other minds, who have accurately treated of each particular subject or branch of knowledge upon which information is sought. Hence, books must be resorted to, and the proper selection of these books, is the great *desideratum*. It is not so much the quantity, as the quality we should regard. A few books well selected, and well read, are better than many books badly selected, and badly read.

For, in order to attain the full development of manhood, the mind must have proper food and nourishment as well as the body. He who would preserve his physical body in good health and full vigor, must minister to it substantial and healthful food at stated times and in proper quantities. So with the mind—if we would develop all of its mighty powers, and varied resources, we must give unto it such mental food as will enrich and invigorate the life-blood of thought. As the human stomach is to the physical system, so is the BRAIN to the mind. The one digests the food that constitutes the blood that is to impart health, vigor and life to the body; the other, that mental food which is to be converted into the spiritual blood of immortal life, either to elevate and glorify that life, or to darken and curse it.

We suppose, too, that the mind, like the body, requires a variety of food to maintain its healthful condition. This variety, however, should be selected with a view to the substantial and lasting benefits to result therefrom, such works should be read that when the mind has digested their contents, a good stock of ideas should be found remaining to enrich the great storehouse of memory, to be called up as a strength and support when the vigor of manhood has departed, to refresh and vivify the *winter of life*.

But, there are a class of works prevalent—and we very much fear they are read by many of our business young men, more, perhaps, than any other kind. We allude to the popular novels of the day. These productions are teeming from the press, and constantly crowding our *literary marts*. From thence they are thrown over the length and breadth of our land, finding their way into the hands of all classes of society—all sexes, ages, and conditions, and constituting the principal reading of the youth of our country. What the result of this will be, for weal or wo, the future alone can determine. We fear, however, it will not add to the sum of human happiness.

We are not prepared to say that *novels* and romances may not be well enough as a *recreation* to minds engaged in constant and *severe* mental labor. But as constituting the principal reading of an individual, they are pernicious—tending to destroy the memory, and weaken and enervate all of the nobler and higher powers of the mind. It is not surprising, however, that they should be so attractive to the young, as they pander to the passions, and stimulate their imaginations—follies which they can only be made sensible of by sad and bitter experience. But there will come a time, too soon in the lives of all, as age advances, when the novel must be thrown aside; and the misfortune is, that,

whilst it has left no substantial food behind for the mind of age to live upon, it has unfitted it for the acquisition of that knowledge which age so much requires, so that, like the shipwrecked mariner, drifting upon a shoreless and stormy sea, without chart, compass, or rudder, he finds that what should have been the mental accumulations of his youth, constituting a rich fund of thought, in the great storehouse of the mind, have in his old age turned to *dust* and to *ashes*. Such must ever be the fate of the habitual novel reader, when youth and passion have departed.

In urging the benefit and necessity of mental culture upon the young men of the Mississippi valley, we would not be understood as uttering any thing against those close business habits, or that activity, vigilance, energy and industry so essential to success in life: this is commendable. But, what we would suggest is, that business, and mental, and moral, culture are not at all incompatible. But, on the contrary, we believe, the man who is engaged in active every day employment is thoroughly competent, if he will make proper application of his time, to make sufficient improvement for his own future happiness, and to discharge all the duties devolving upon him as a citizen and member of society. His daily contact with the business world places in his hands the touch stone of truth, by which to test that which he derives from books, the one kind of knowledge ballances the other and gives to him an equilibrium of mind and firmness of character that the mere *student of books* can never know.

We assure our young friends we wish them all success in business, and hope they may accumulate fortunes. But let us beg of them to seriously reflect whether it would not be a good *investment*, one that would pay good interest to them in future time; to devote a few hours out of every week, from the *rush*, *wear* and *tear*, of business, to calm research and quiet thought, whether in the day of their need when the fervent imagination, and ardent passions of youth have grown cold with advancing years, and lost their charm over the heart, and ceased to cheat, bewilder and betray,—when the mind thus stripped of the garb of deception turns from the past to the future, would it not be well, we say, that it should have been strengthened and fortified for this change in life by lessons of wisdom drawn from that fountain of all truth: the christian philosophy?

To the young men of the Mississippi valley these remarks are particularly addressed. They occupy a proud and responsible position, morally, socially, and politically. In their hands is vested a mighty power, a high and a holy trust as *Guardians of the Federal Union* of these States, and it is their solemn duty to prepare themselves for a religious discharge of the sacred obligations resting upon them.

For the time is not far distant when the centre of population will be near the great heart of the Mississippi valley—with population comes political power, the arts, sciences and literature. Here American mind and genius must first take on their true tone, character and *nationality*; here their first great efforts will be made in forming an *American National* literature,—a literature destined to remould the world of thought, directing it to new and hitherto untried channels; here the American thought must be matured, finding vent in uttered word and written record; bearing impress of the magnitude in

extent, resources, powers and glory of the surrounding country; here American character will take on its true tone, dignity and national greatness; here American institutions will receive the impress of their final destiny. Upon the young men of the west devolves the high responsibility of shaping and directing these mighty interests for good or for evil: will they rise commensurate in knowledge, power, thought and deed to the mighty task imposed upon them by their destiny?

Since the first formation of the Federal Union, there has gradually arisen a feeling antagonistic in its character, between the north and the south, calculated, in its tendency, to engender sectional and partisan feeling between the people occupying these two sections of our country. It is the privilege and province of the great west, if she is true to her own destiny, to throw oil upon the angry waves of discord agitating these two sections, and soothe them into harmony and peace—to frown down with indignant scorn and loathing, the first *dawning of an attempt to weaken the bonds of the American Union.*

LITERARY NOTICES AND ACKNOWLEDGMENTS.

THE ST. LOUIS PROBE.

This is the title of a Medical Journal recently established in this city, edited by Drs. Coons and Atkinson. The articles contained in the January number (the only one which has come to hand) appear to have been selected with judgment; and the leading article, "Remarks on Cholera," by the senior Editor, will be found interesting to the general reader as well as to the physician. We take this occasion to remark that, in our opinion, the community in general do not sufficiently appreciate the value of medical journals. The circulation of these periodicals should not be confined to the profession—it would be good economy for every family to take one. The St. Louis Probe is published at two dollars per annum. The enterprising Editors have our best wishes for their success.

DESCRIPTION OF A RAILROAD ROUTE FROM ST. LOUIS TO SAN FRANCISCO, in letters to P. P. F. Degrand from W. L. Dearborn, Civil Engineer. This pamphlet contains more valuable facts relating to the great central route than any other document, of equal size, we have met with. We tender our thanks to Mr. Degrand for his kind attention.

MAURY'S SAILING DIRECTIONS.

We acknowledge our obligations to Lieut. Maury for a copy of this valuable document. Such information as it contains is always highly prized by us.

INTERNAL IMPROVEMENTS IN KENTUCKY.

We have received the annual report of O. G. Cates Esq., President of the Board of internal improvements, for the year 1849. It is an interesting document and highly creditable to the author. A portion of its contents will appear in our next number.

PROCEEDINGS OF THE NORTH AMERICAN POMOLOGICAL CONVENTION HELD AT SYRACUSE SEPT. 1849.

This report fills about 60 pages and contains much interesting and valuable information. We are happy to observe that there is a growing interest felt in Horticultural pursuits, throughout the whole Union. This is owing mainly to the efforts of a few public spirited individuals, who have been instrumental in forming associations and getting up conventions. Such individuals should be regarded as benefactors of the country.

We have also to acknowledge the receipt of the report of the Ohio Nurserymen and Fruit Growers Convention held at Columbus Ohio, December 5th 1849. This is likewise an interesting and valuable document.

TO SUBSCRIBERS.

The March number will complete the 3d volume, and we respectfully request those who desire to discontinue taking the work to send in their names before the commencement of the 4th volume. Otherwise we shall continue to send the work, and charge them as subscribers for the ensuing year. EDITORS.